

# PRELIMINARY REPORT OF 061018

last update on Wed Oct 18 16:44:10 GMT 2006

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## 1 - Introduction

This report is based on the analysis of wave mode level-1 cross spectra (ASA\_WVS\_1P), global monitoring products (ASA\_GM1\_1P), which are the available few hours after the acquisition, on the browse (BP) products and on the Module Stepping (MS) product.

## 2 - Summary

### 2.1 - Instrument Unavailability

No unavailabilities during the reported period.

### 2.2 - Auxiliary files

Summary of the auxiliary files used from 2006-10-17 00:00:00 to 2006-10-18 16:44:10

PDHS-K					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM

ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	34	72	8	8	0
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	34	72	8	8	0
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	34	72	8	8	0
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	34	72	8	8	0

PDHS-E					
AUXILIARY FILE	WVS	GM1	IMM	APM	WSM
ASA_CON_AXVIEC20051013_151540_20050916_195733_20061231_000000	16	20	5	1	8
ASA_XCA_AXVIEC20060717_154125_20050916_195733_20061231_000000	16	20	5	1	8
ASA_INS_AXVIEC20051219_161945_20030211_000000_20061231_000000	16	20	5	1	8
ASA_XCH_AXVIEC20051219_162547_20020301_000000_20081231_000000	16	20	5	1	8

## 2.3 - Browse Visual Inspection

No anomalies observed on available browse products

## 2.4 - Data Analysis

- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.

## 3 - Module Stepping Mode

No anomalies observed on available MS products:

Polarisation	Start Time
V	20061017 085033
H	20061018 081856

### MSM in V/V polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
☒	☒
☒	☒
☒	☒
☒	☒

### MSM in H/H polarisation

Pre-launch Reference	DDS-B (2003-06-12) reference
☒	☒
☒	☒
☒	☒
☒	☒

## 4 - Internal calibration Results

No anomalies observed.

### 4.1 - Daily statistics

#### 4.1.1 - Evolution for WVS

Evolution of cal pulses for WVS
☒
☒

#### 4.1.2 - Evolution for GM1

Evolution of cal pulses for GM1
☒
☒

### 4.2 - Cyclic statistics

#### 4.2.1 - Evolution for WVS

Evolution of cal pulses for WVS
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**P1a Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
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**P1 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.950759	0.010209	-0.007457
7	P1	-3.076953	0.010423	-0.001968
11	P1	-4.086120	0.022439	-0.017705
15	P1	-6.205069	0.015628	-0.024595
19	P1	-3.553137	0.007992	-0.040455
22	P1	-4.603824	0.010605	0.010411
26	P1	-3.988204	0.056749	-0.034899
30	P1	-5.843666	0.088240	-0.046043
3	P1	-16.635757	0.217765	-0.092548
7	P1	-17.111294	0.104196	0.033477
11	P1	-16.947227	0.384559	-0.304997
15	P1	-12.850653	0.098094	0.060709
19	P1	-14.671314	0.053330	-0.053477
22	P1	-15.620181	0.471319	0.359057
26	P1	-15.143935	0.249860	0.211247
30	P1	-16.963251	0.440723	0.082737

**P2 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-20.822021	0.086688	-0.007244
7	P2	-21.786238	0.097334	0.089658
11	P2	-15.734672	0.109263	0.026360
15	P2	-7.077446	0.106942	0.067605
19	P2	-9.127467	0.098075	0.036275
22	P2	-18.138905	0.093373	0.013832
26	P2	-16.426666	0.101670	0.040774
30	P2	-19.469692	0.093139	0.026095

**P3 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.199180	0.006439	-0.004035
7	P3	-8.199180	0.006439	-0.004035
11	P3	-8.199180	0.006439	-0.004035
15	P3	-8.199180	0.006439	-0.004035
19	P3	-8.199180	0.006439	-0.004035
22	P3	-8.199180	0.006439	-0.004035
26	P3	-8.198991	0.006447	-0.003623
30	P3	-8.198991	0.006447	-0.003623

**4.2.2 - Evolution for GM1**

Evolution of cal pulses for GM1

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**P1a Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
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**P1 Cyclic statistics**

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P1	-3.904376	0.139300	-0.126652
7	P1	-2.620490	0.843968	-0.299380
11	P1	-2.920472	0.109612	-0.103308
15	P1	-3.706367	0.103692	-0.132859
19	P1	-3.465376	0.033835	-0.004473
22	P1	-5.085179	0.035400	0.059560
26	P1	-5.916039	0.156666	-0.053493
30	P1	-5.237057	0.160065	-0.039049
3	P1	-11.729300	0.360893	-0.257826
7	P1	-10.137509	1.097983	-0.424024
11	P1	-10.445741	0.322652	-0.272617
15	P1	-10.944394	0.446924	-0.348413
19	P1	-15.557764	0.299357	0.067358
22	P1	-20.963228	1.393708	0.064047

26	P1	-15.815747	0.441331	0.323300
30	P1	-18.081377	0.511489	0.043794

### P2 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P2	-16.344791	0.210913	0.192522
7	P2	-22.009350	1.186592	0.559108
11	P2	-10.845726	0.186014	0.206947
15	P2	-4.860333	0.035200	0.036688
19	P2	-6.839730	0.058106	0.056920
22	P2	-8.201756	0.371195	-0.118128
26	P2	-24.113508	0.874430	0.322906
30	P2	-21.893709	0.450791	0.282247

### P3 Cyclic statistics

row	pulse	mean (dB)	stdev (dB)	slope(dB/cycle)
3	P3	-8.047873	0.003192	0.002933
7	P3	-8.047801	0.003184	0.002878
11	P3	-8.047764	0.003182	0.003458
15	P3	-8.047914	0.003190	0.002835
19	P3	-8.047890	0.003180	0.002990
22	P3	-8.047810	0.003183	0.003412
26	P3	-8.047610	0.003176	0.004250
30	P3	-8.047541	0.003173	0.003965

## 4.3 - cal pulses monitoring (all rows)

### 4.3.1 - Evolution for WVS



### 4.3.2 - Evolution for GM1



## 5 - RAW data statistics

No anomalies observed.

### 5.1 - Input mean I/Q

channel	stat	DSS-B
MEAN I	mean	0.000567701
	stdev	1.62460e-07
MEAN Q	mean	0.000525795
	stdev	2.13782e-07



### 5.2 - Input stdev I/Q

channel	stat	DSS-B
STDEV I	mean	0.138861
	stdev	0.00112819
STDEV Q	mean	0.139235
	stdev	0.00114668



### 5.3 - Gain imbalance I/Q



## 6 - Telemetry analysis

Summary of analysis for the last 3 days 2006101[678]

The assumptions is taken that the SQADS num\_gaps and num\_missing\_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20061016_002901_000000512052_00088_24190_7082.N1	1	0
ASA_GM1_1PNPDK20061016_101226_000002832052_00094_24196_6655.N1	0	15
ASA_GM1_1PNPDK20061016_101852_000003802052_00094_24196_6652.N1	0	6





## 7 - Doppler Analysis

Preliminary report. The data is not yet controlled



### 7.1 - Unbiased Doppler Error for WVS

#### Evolution of unbiased Doppler error (Real - Expected)


Ascending

Descending

### 7.2 - Absolute Doppler for WVS

#### Evolution of Absolute Doppler


Ascending

Descending

### 7.3 - Doppler evolution versus ANX for WVS

#### Evolution Doppler error versus ANX


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### 7.4 - Unbiased Doppler Error for GM1

#### Evolution of unbiased Doppler error (Real - Expected)



<input type="checkbox"/>
Ascending
<input type="checkbox"/>
Descending

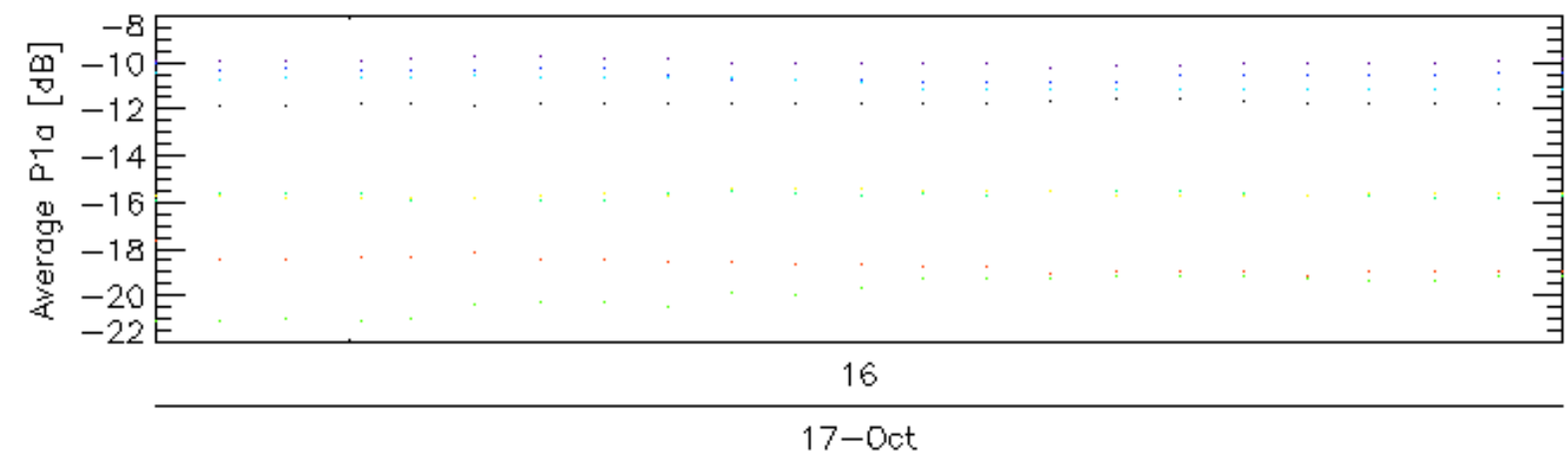
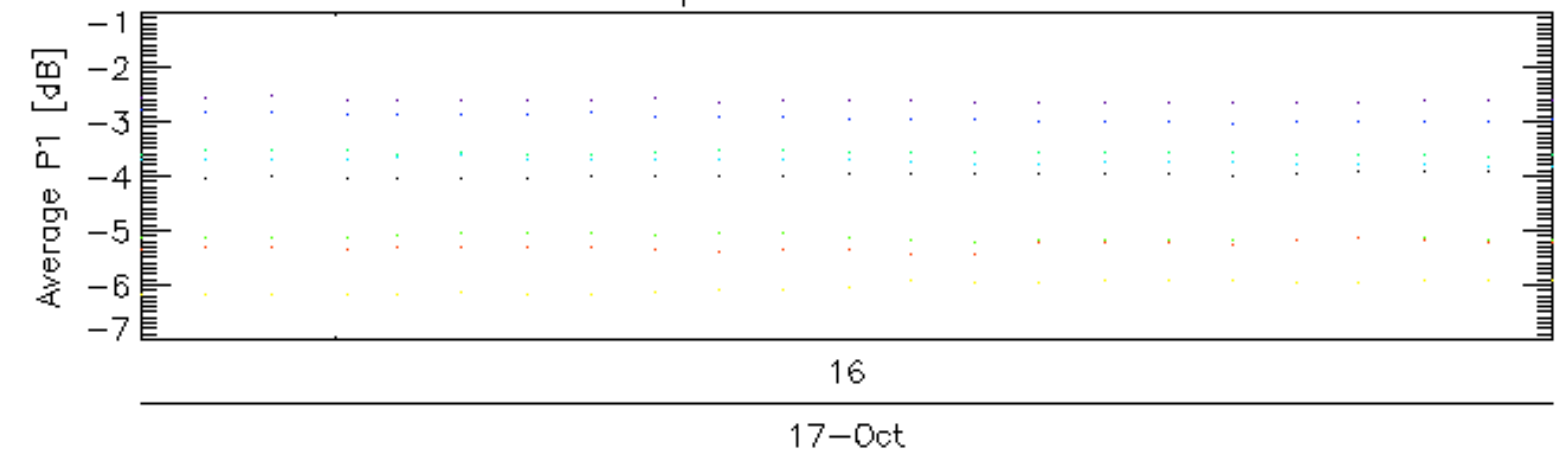
### 7.5 - Absolute Doppler for GM1

<b>Evolution of Absolute Doppler</b>
<input type="checkbox"/>
Ascending
<input type="checkbox"/>
Descending

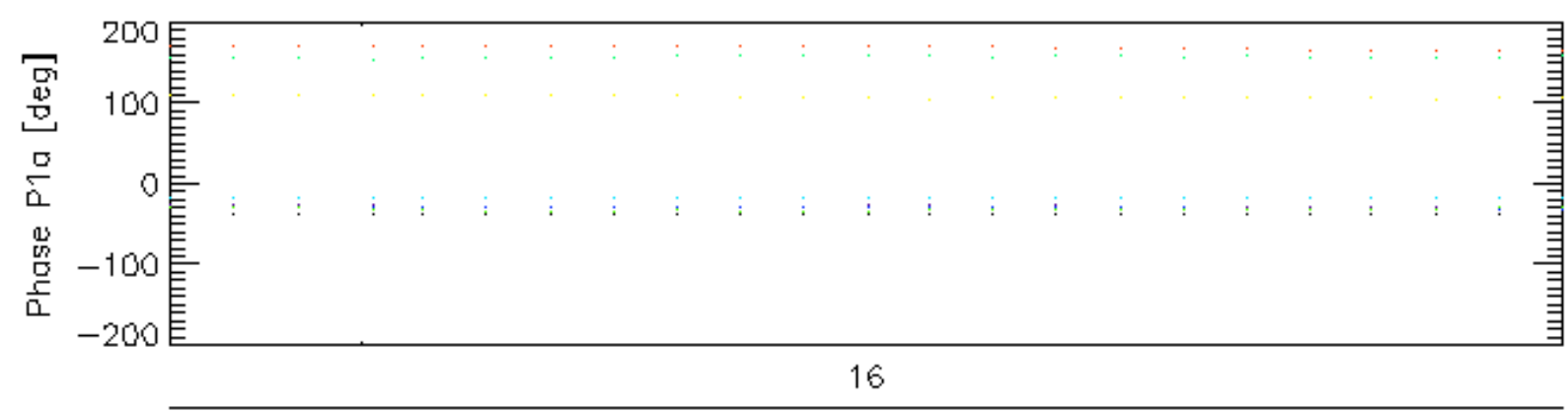
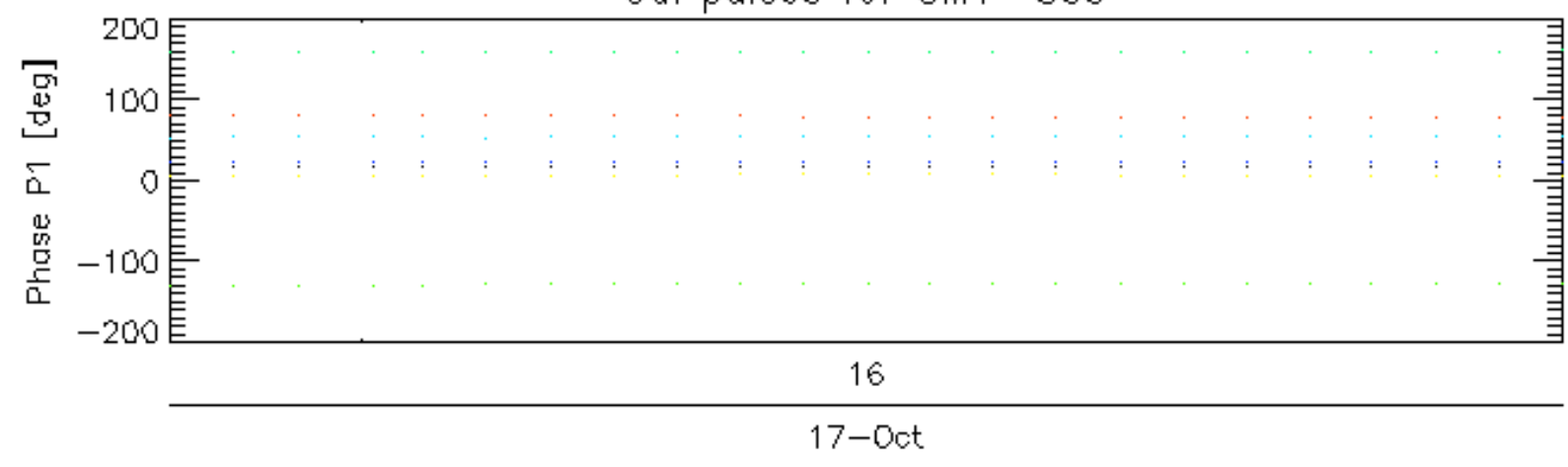
### 7.6 - Doppler evolution versus ANX for GM1

<b>Evolution Doppler error versus ANX</b>
<input type="checkbox"/>

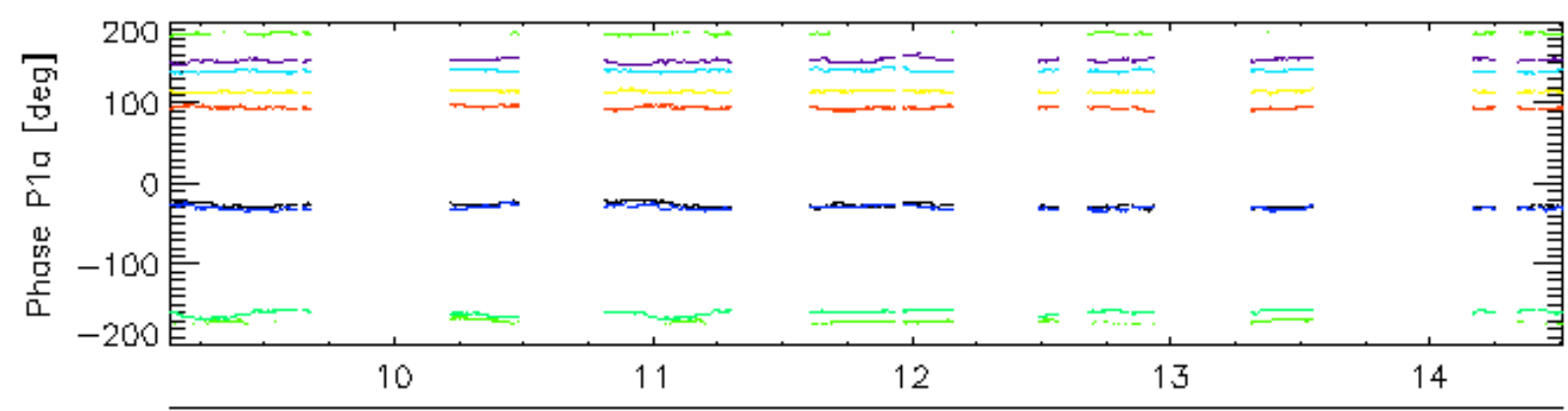
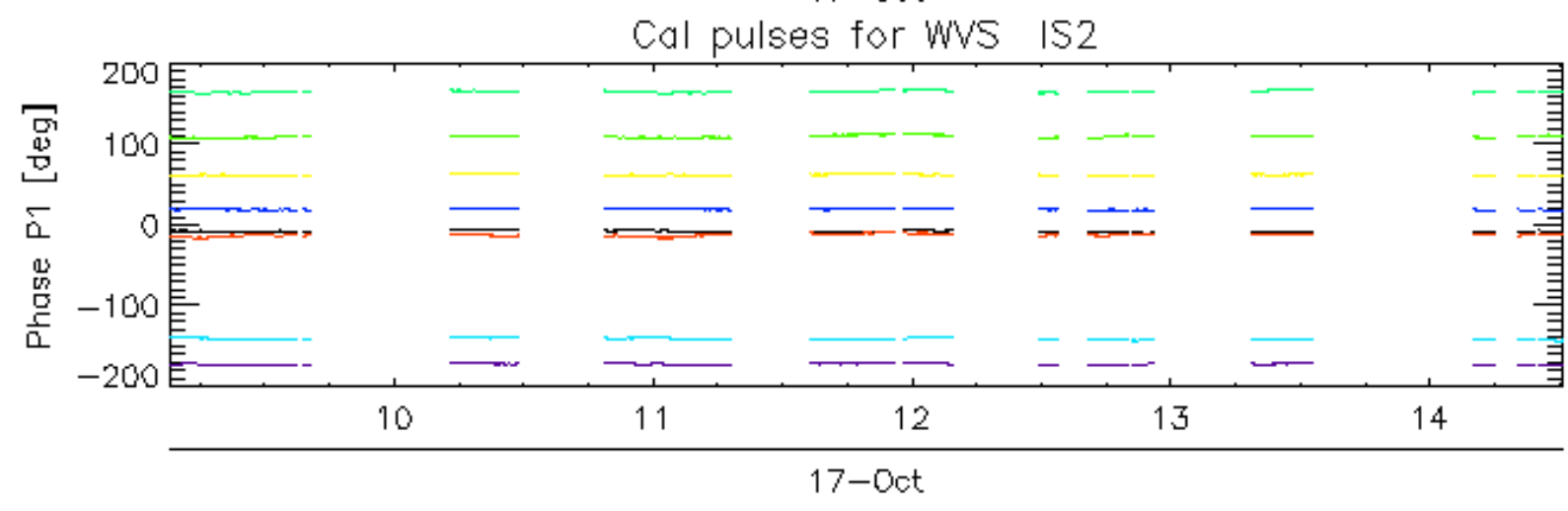
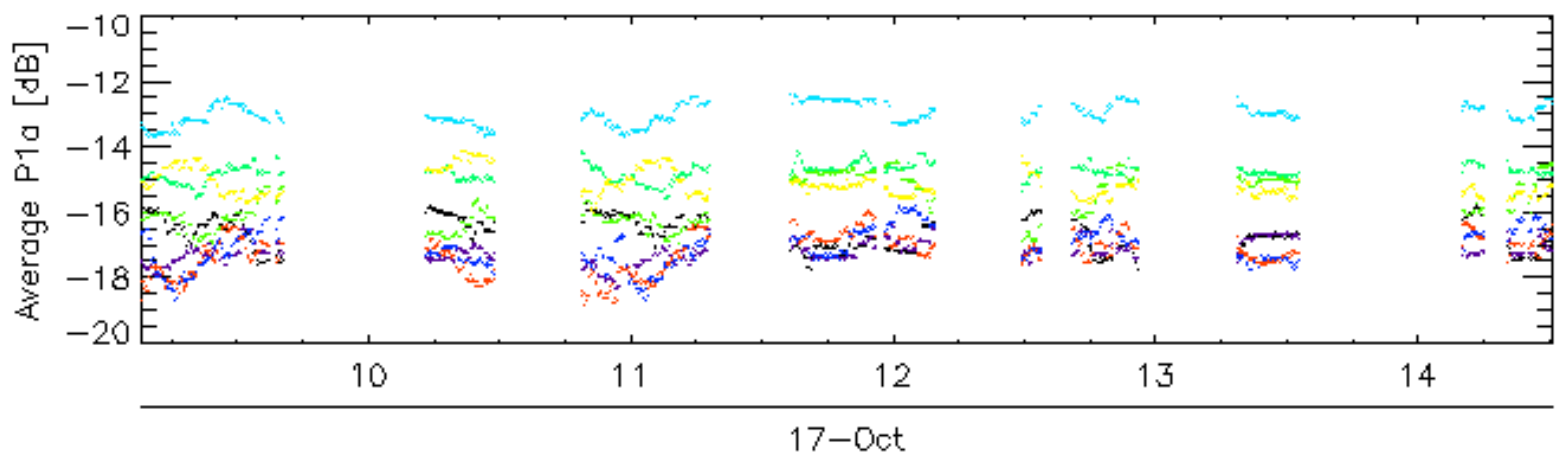
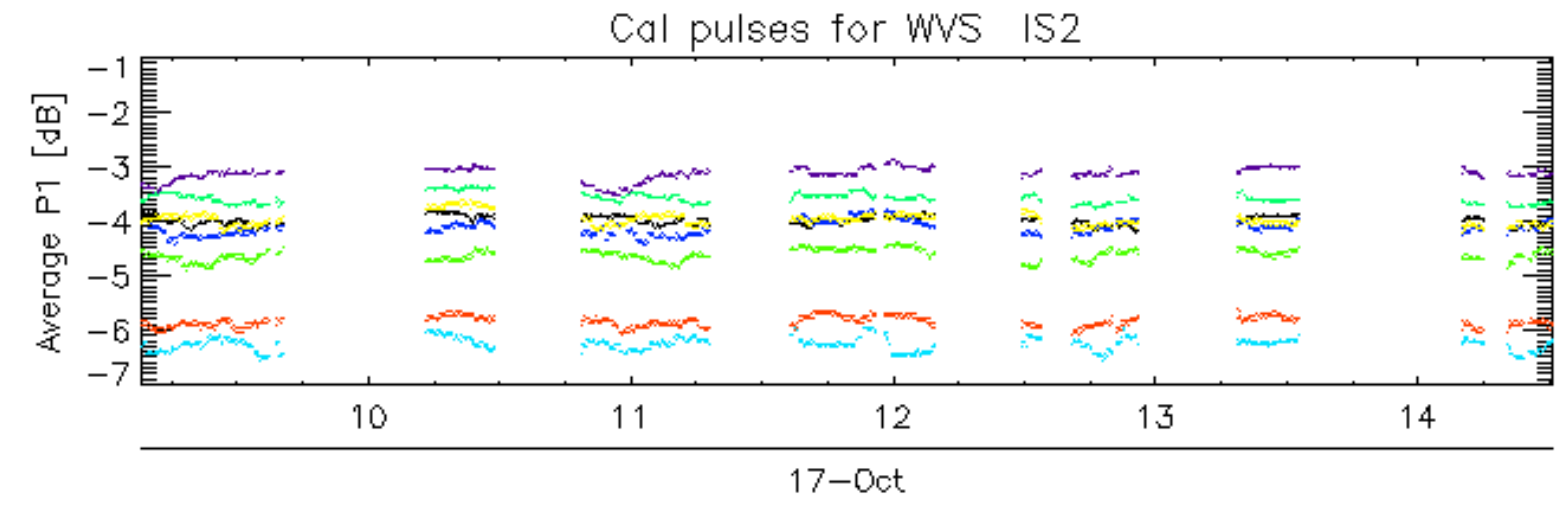
Cal pulses for GM1 SS3



Cal pulses for GM1 SS3

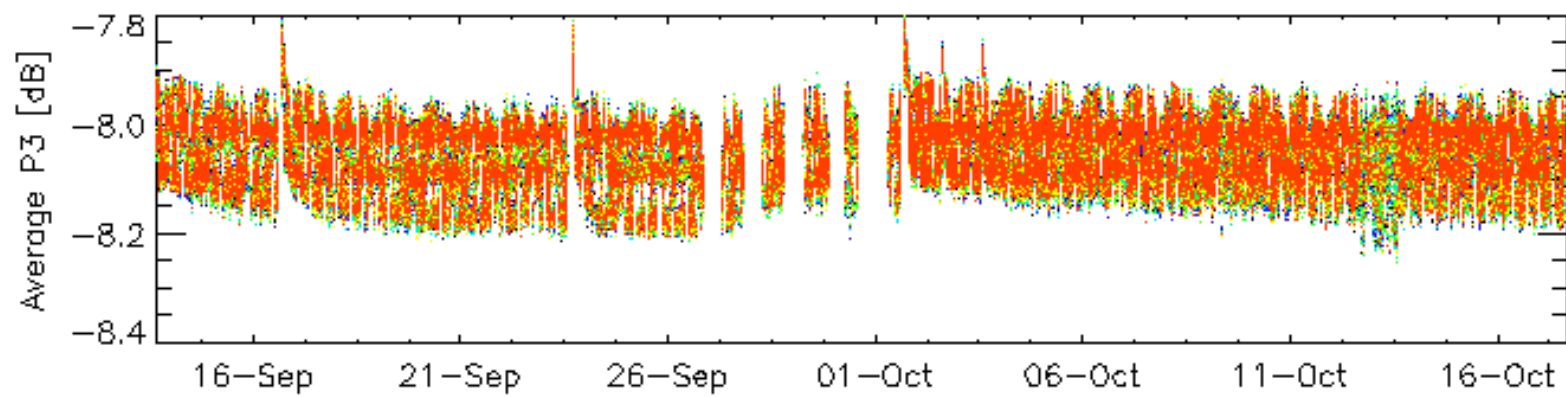
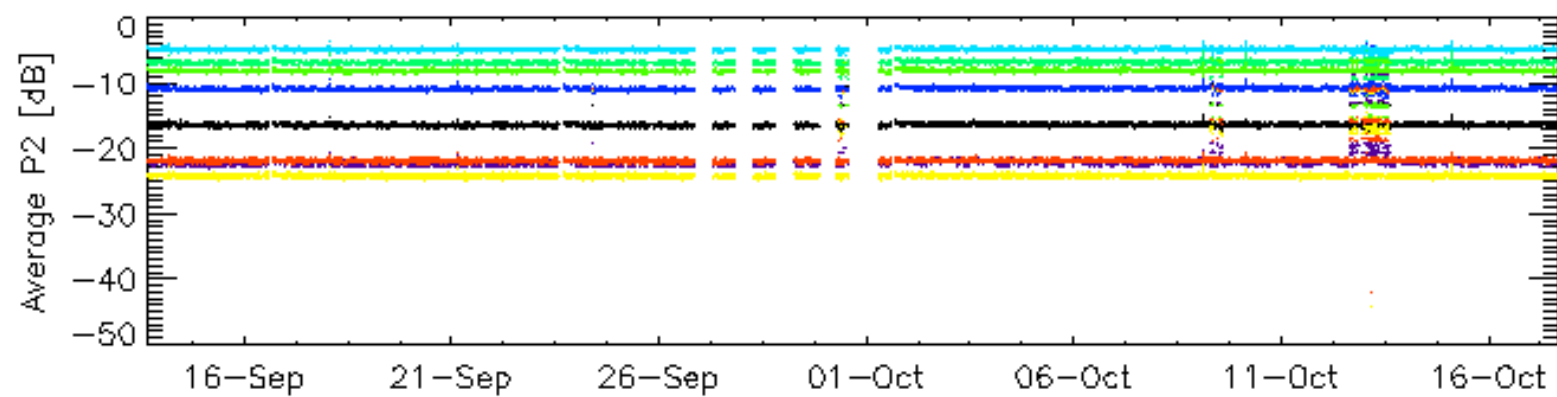
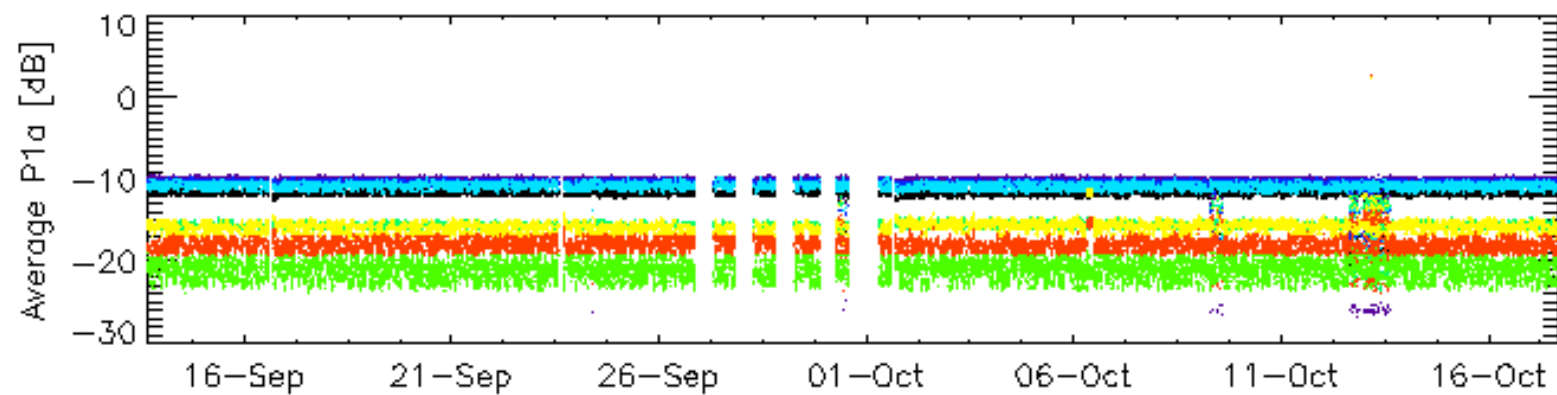
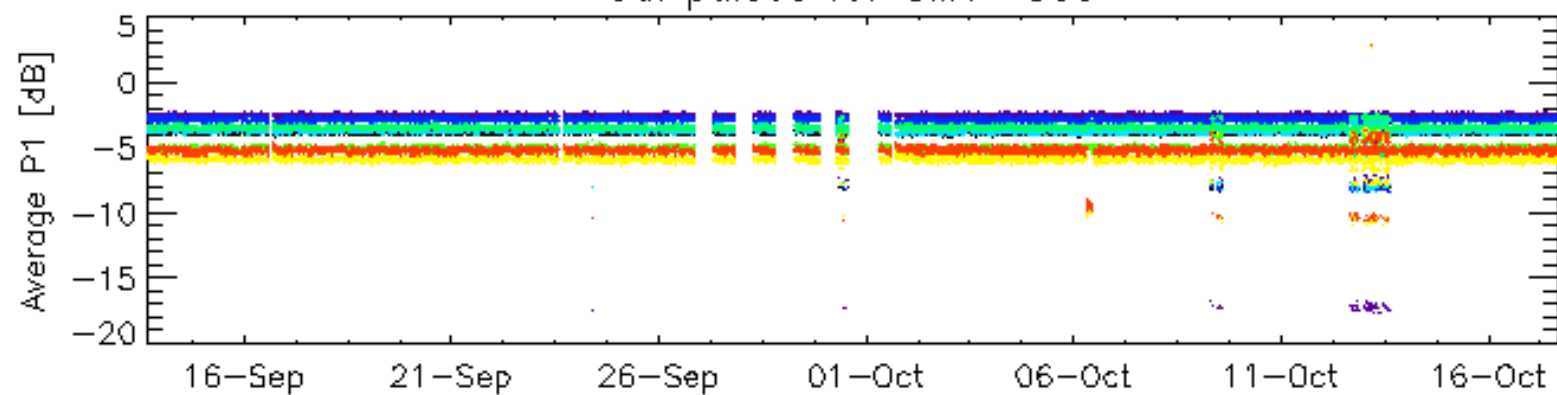


rows: 3 7 11 15 19 22 26 30



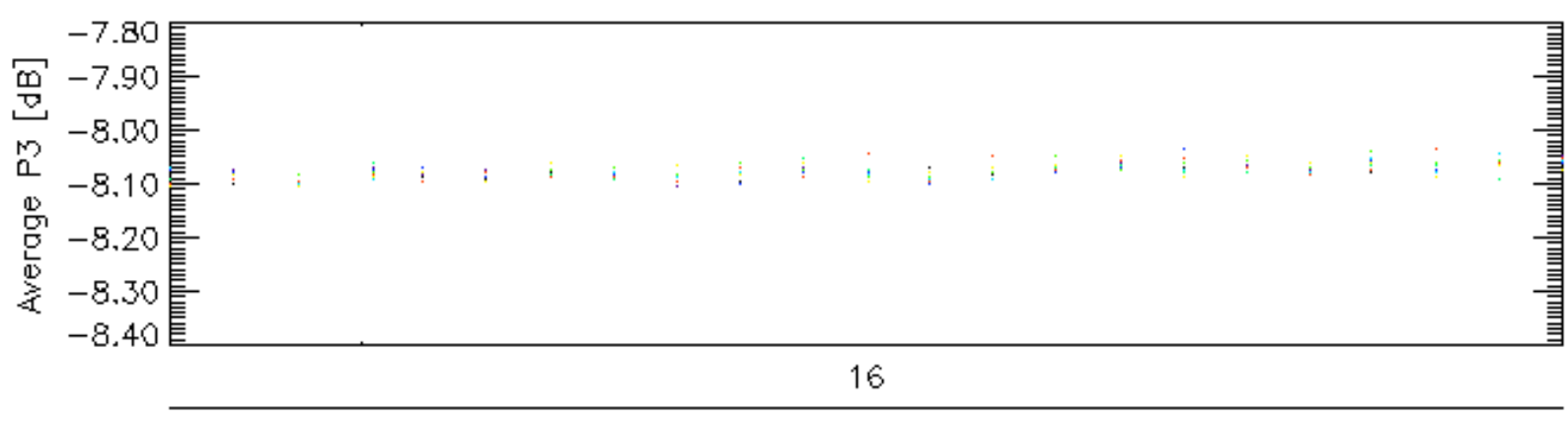
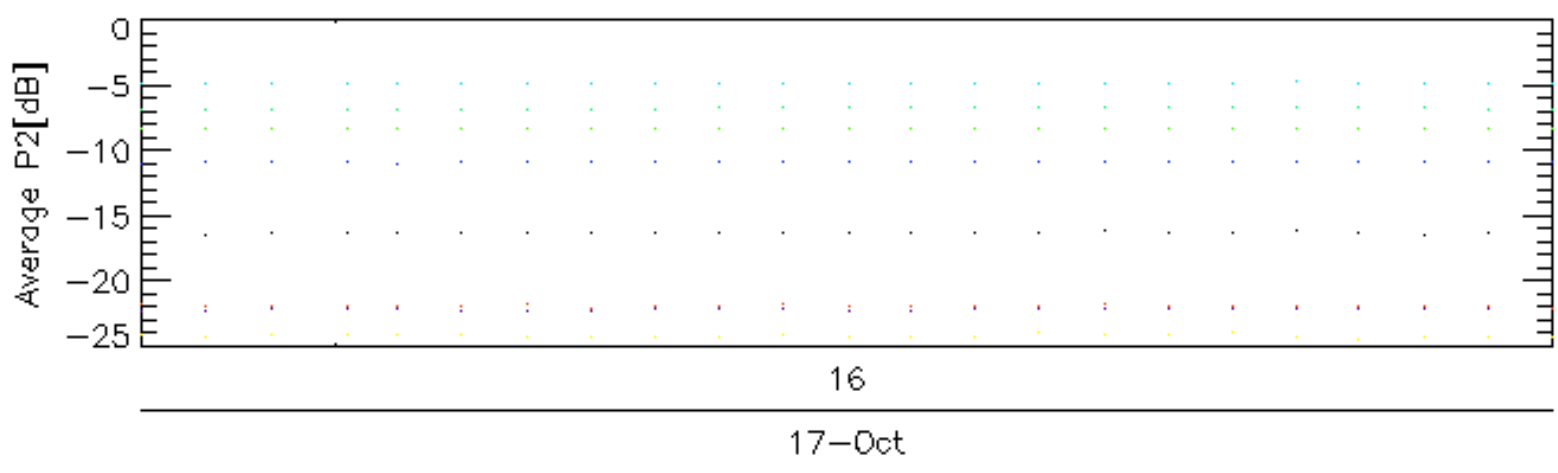
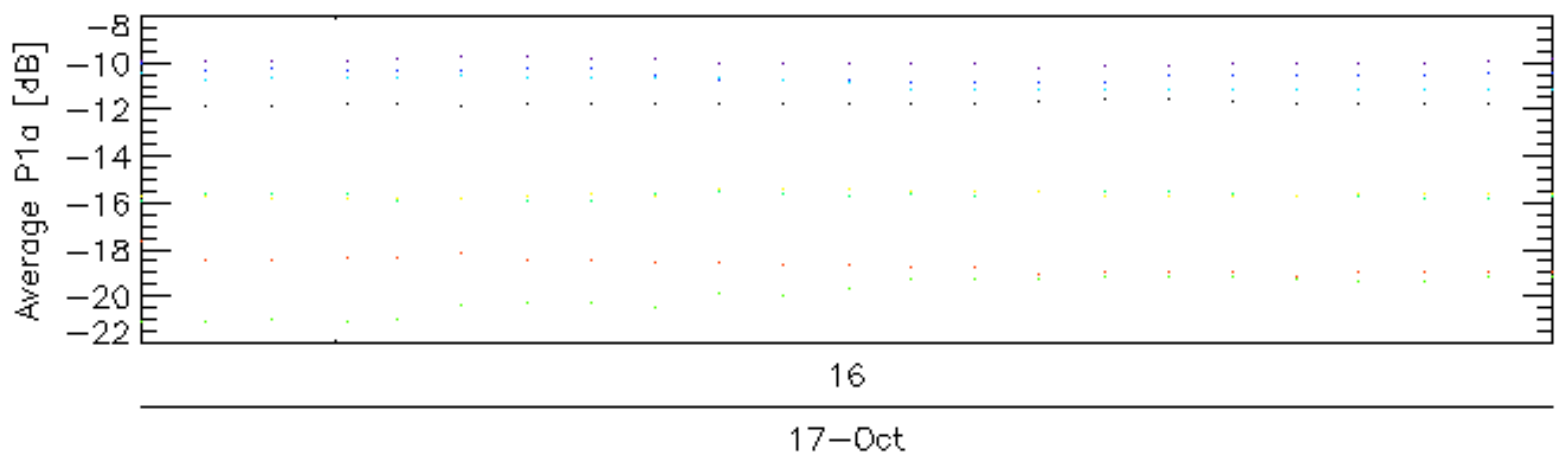
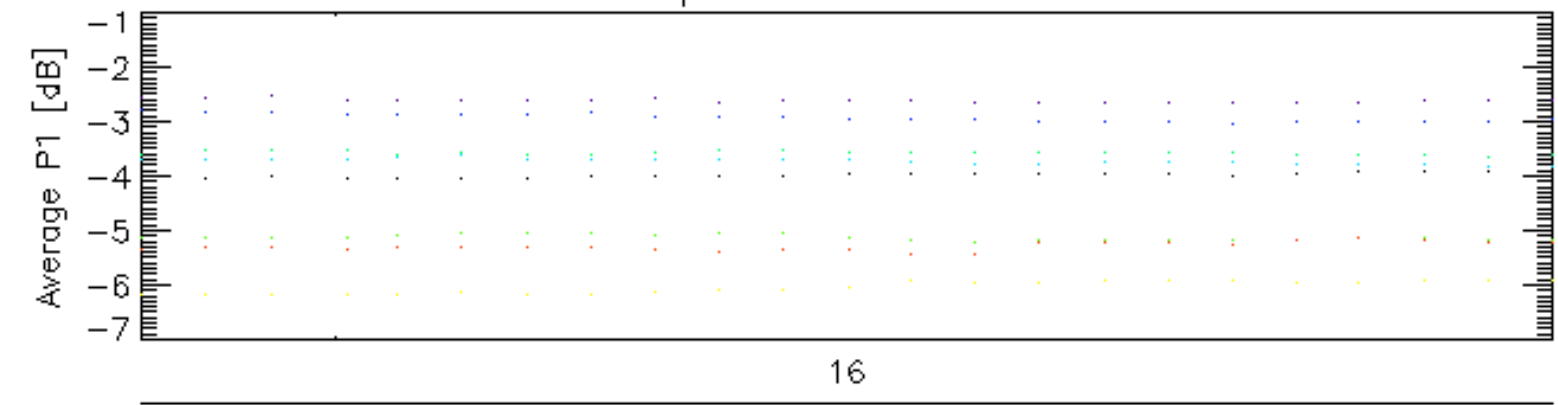
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3



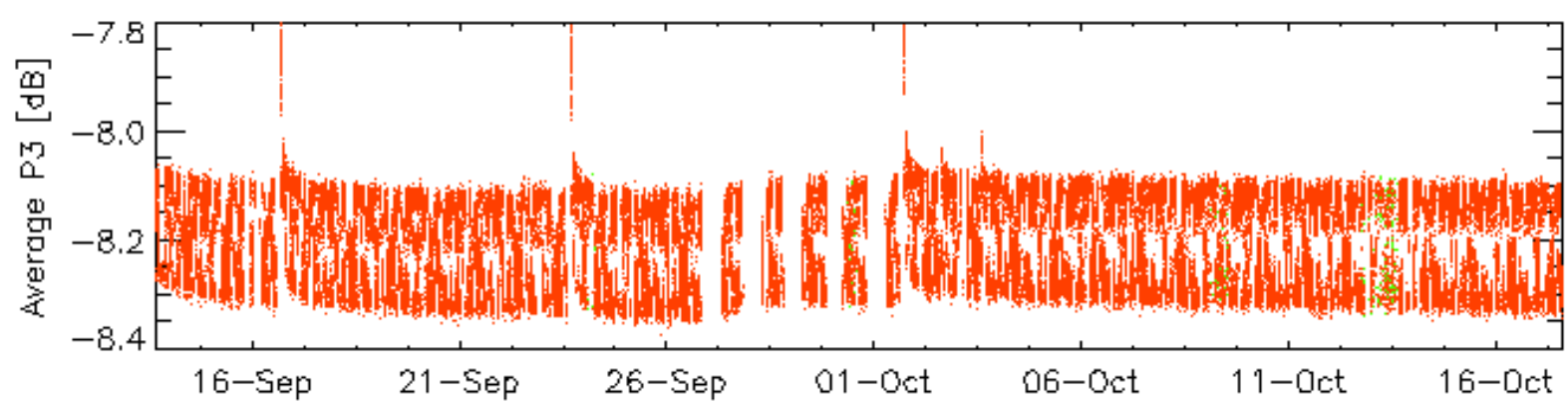
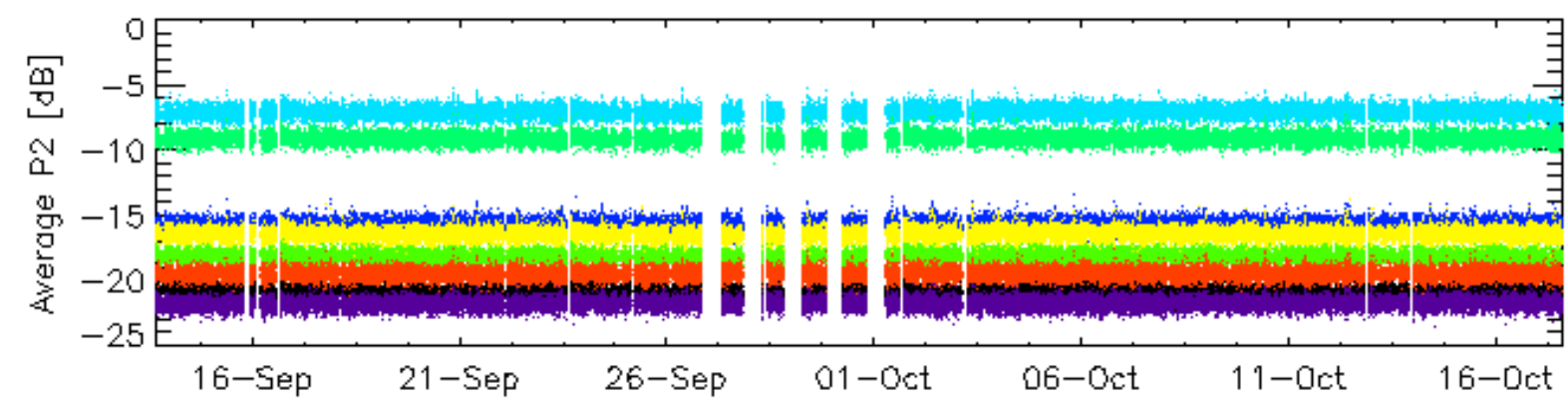
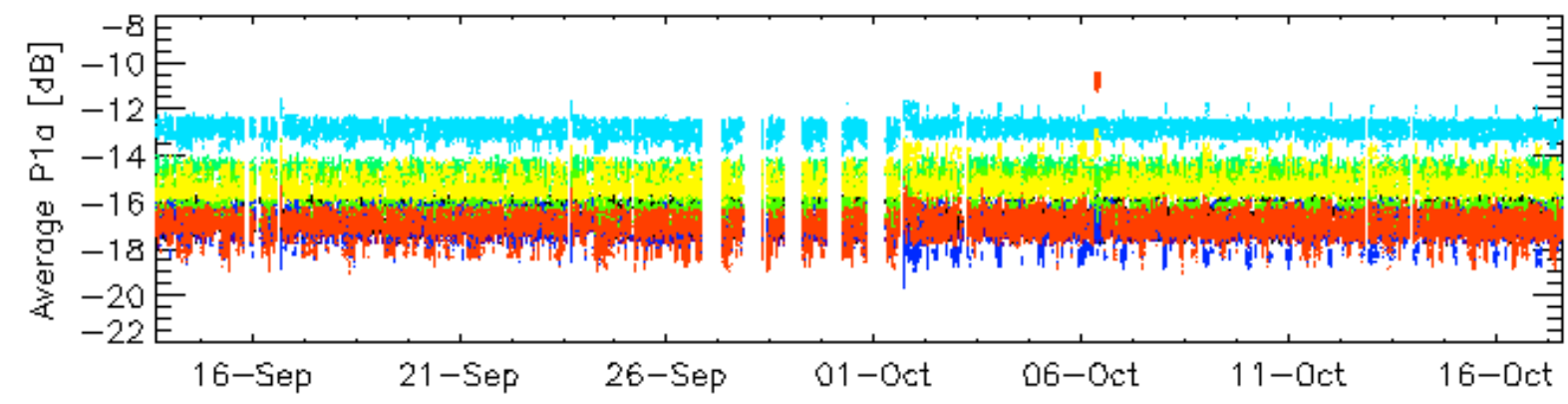
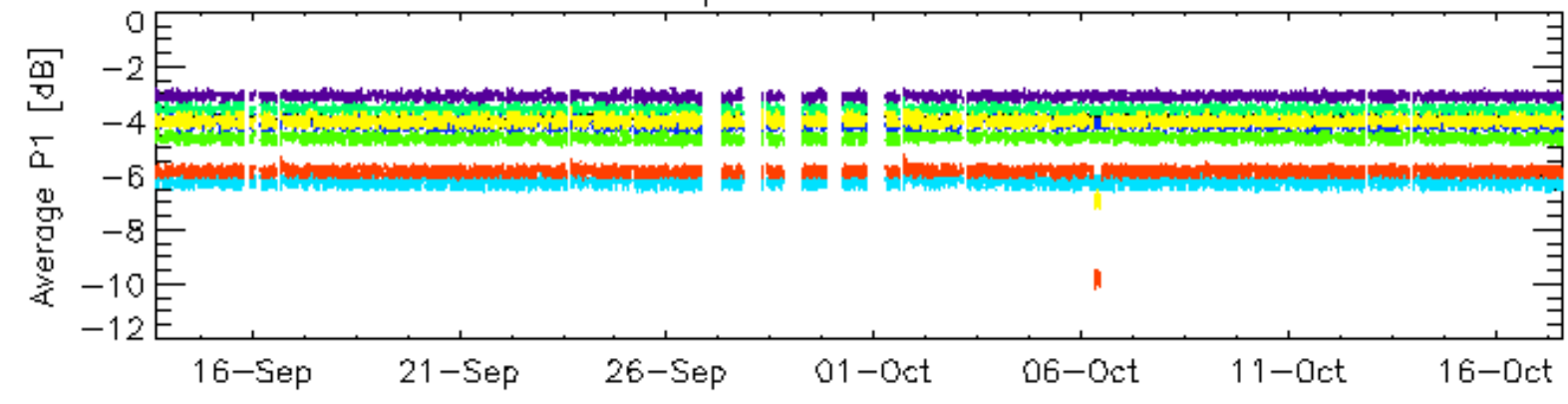
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for GM1 SS3



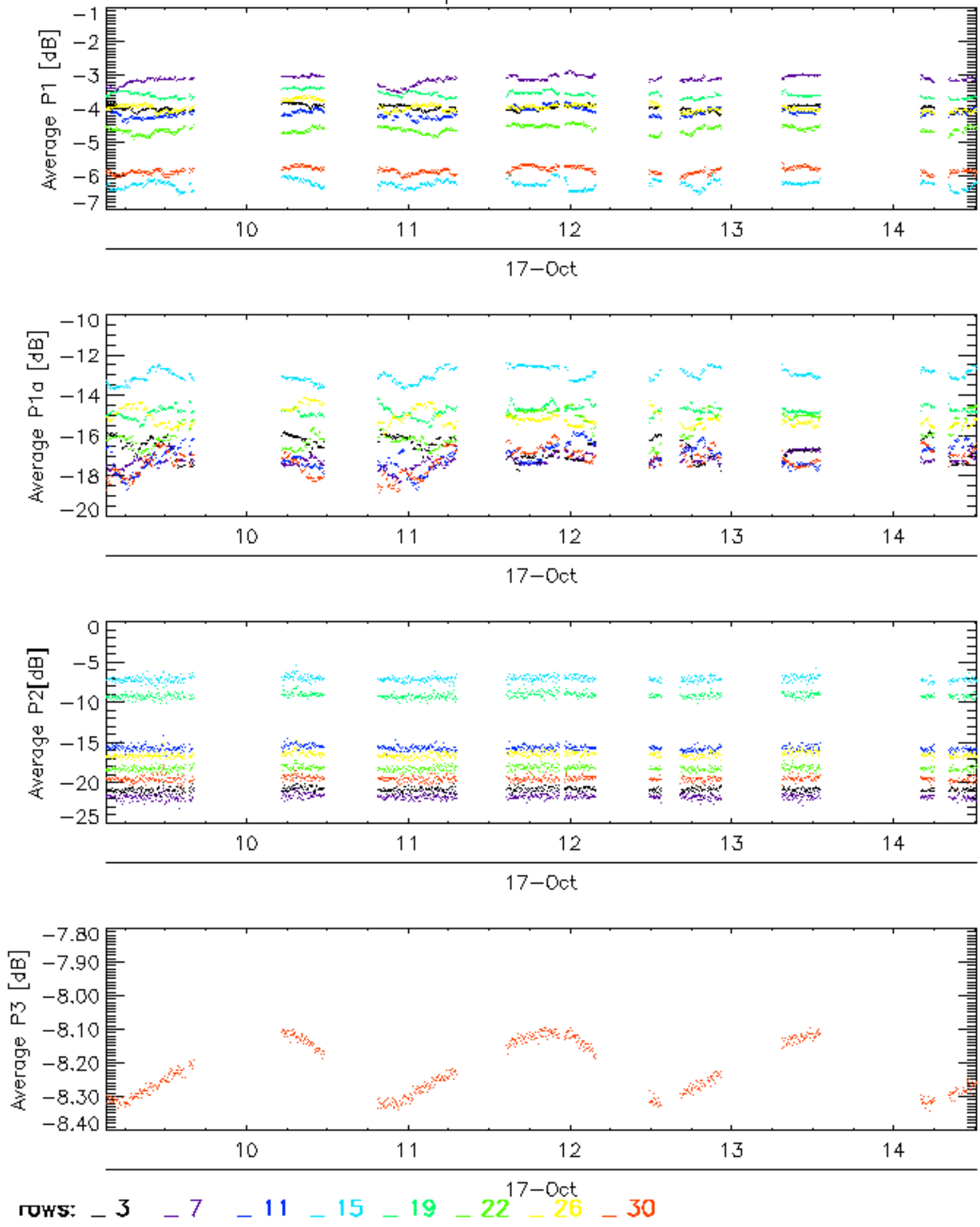
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

Cal pulses for WVS IS2



rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

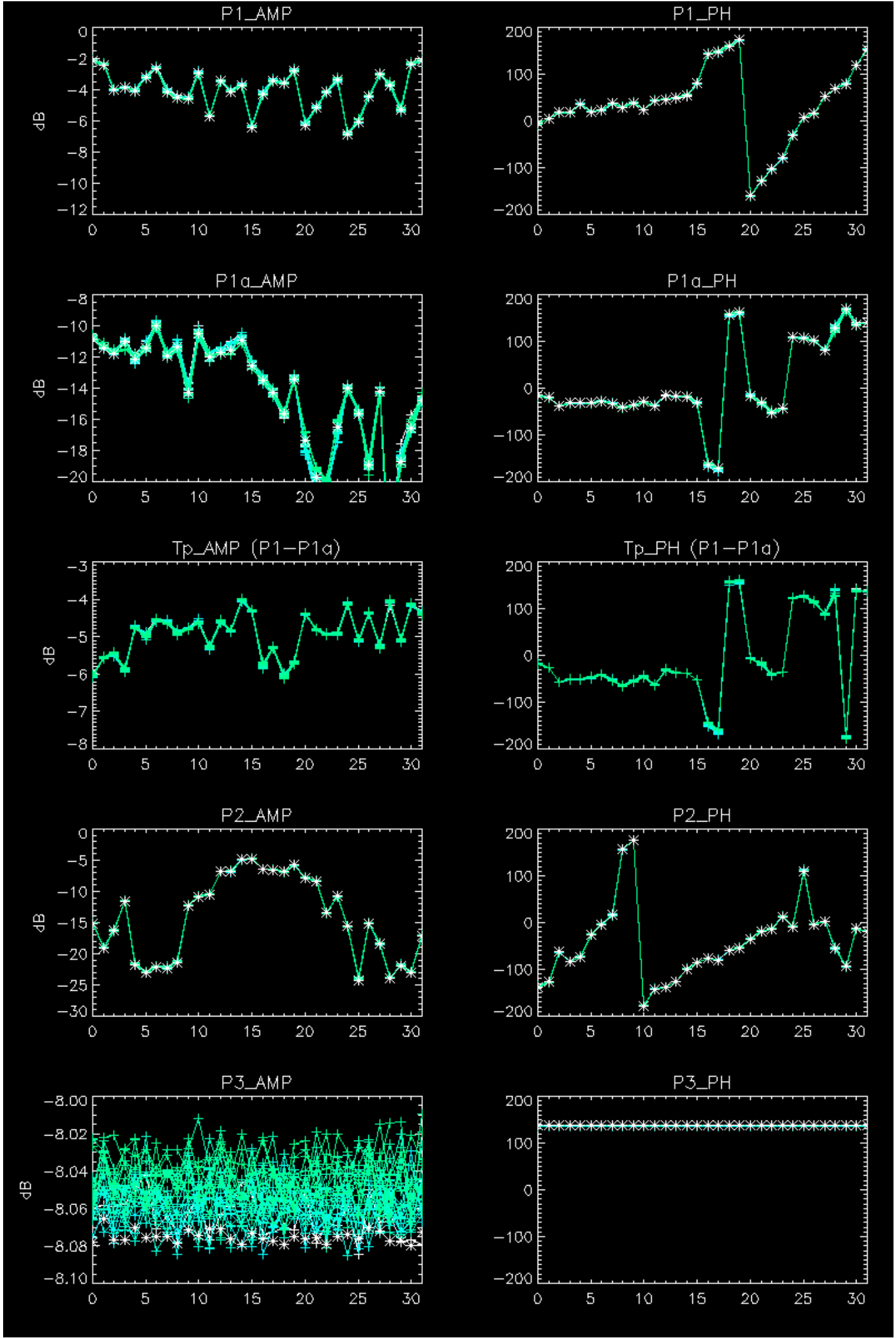
Cal pulses for WVS IS2

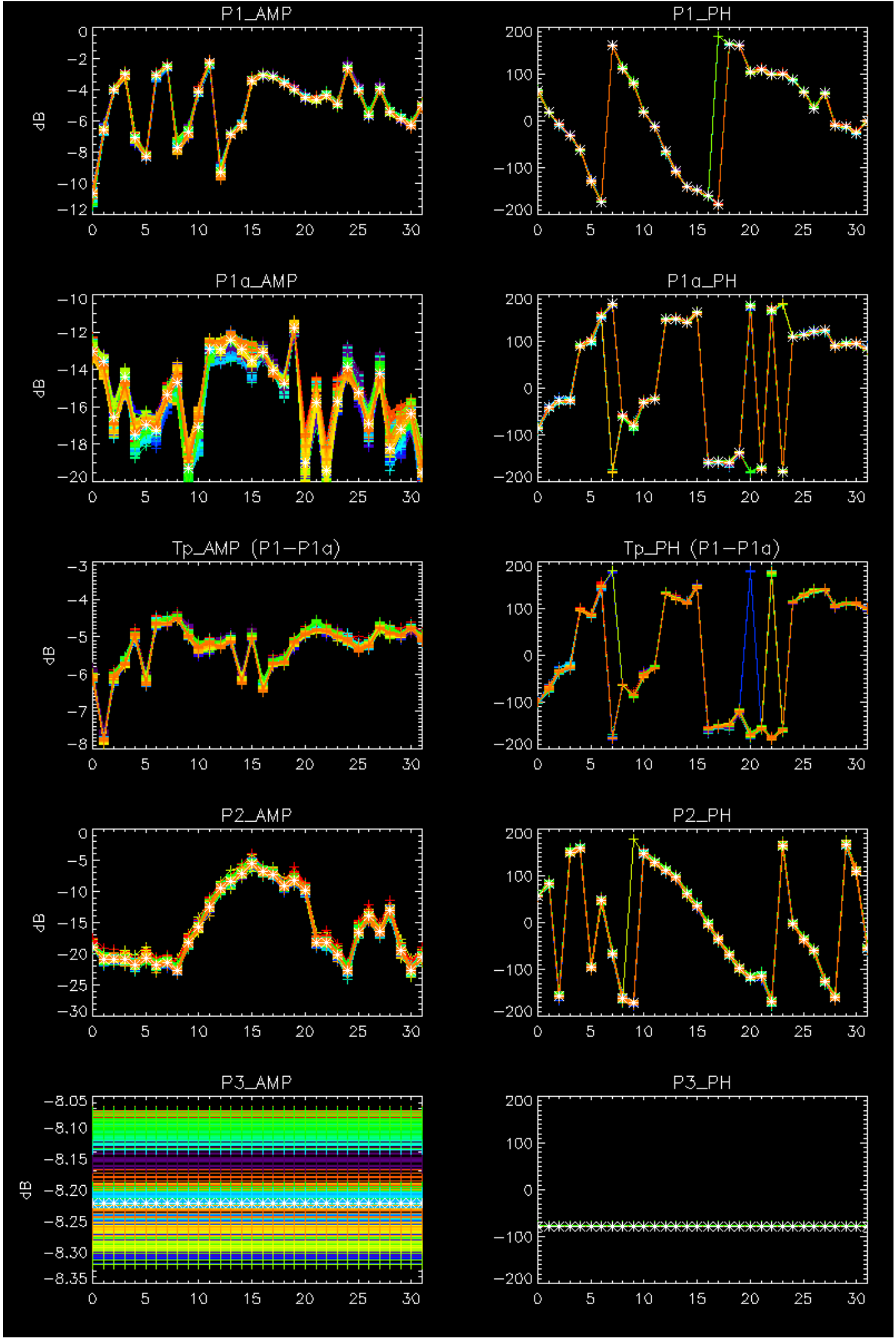


No anomalies observed on available browse products



No anomalies observed.



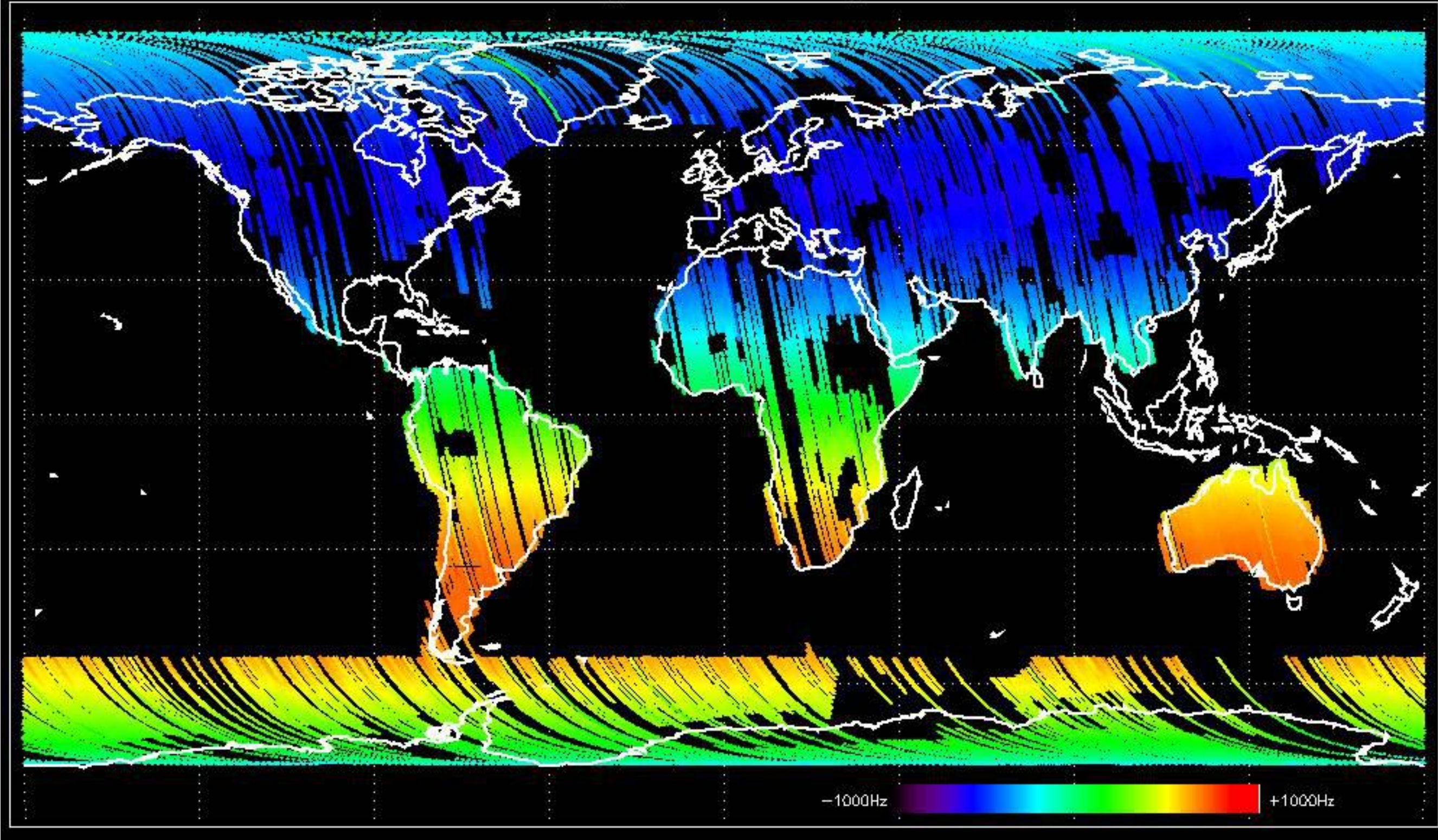


- Stable wave internal calibration pulses gain and phase.
- Stable raw data statistics.
- Nominal Doppler behavior.



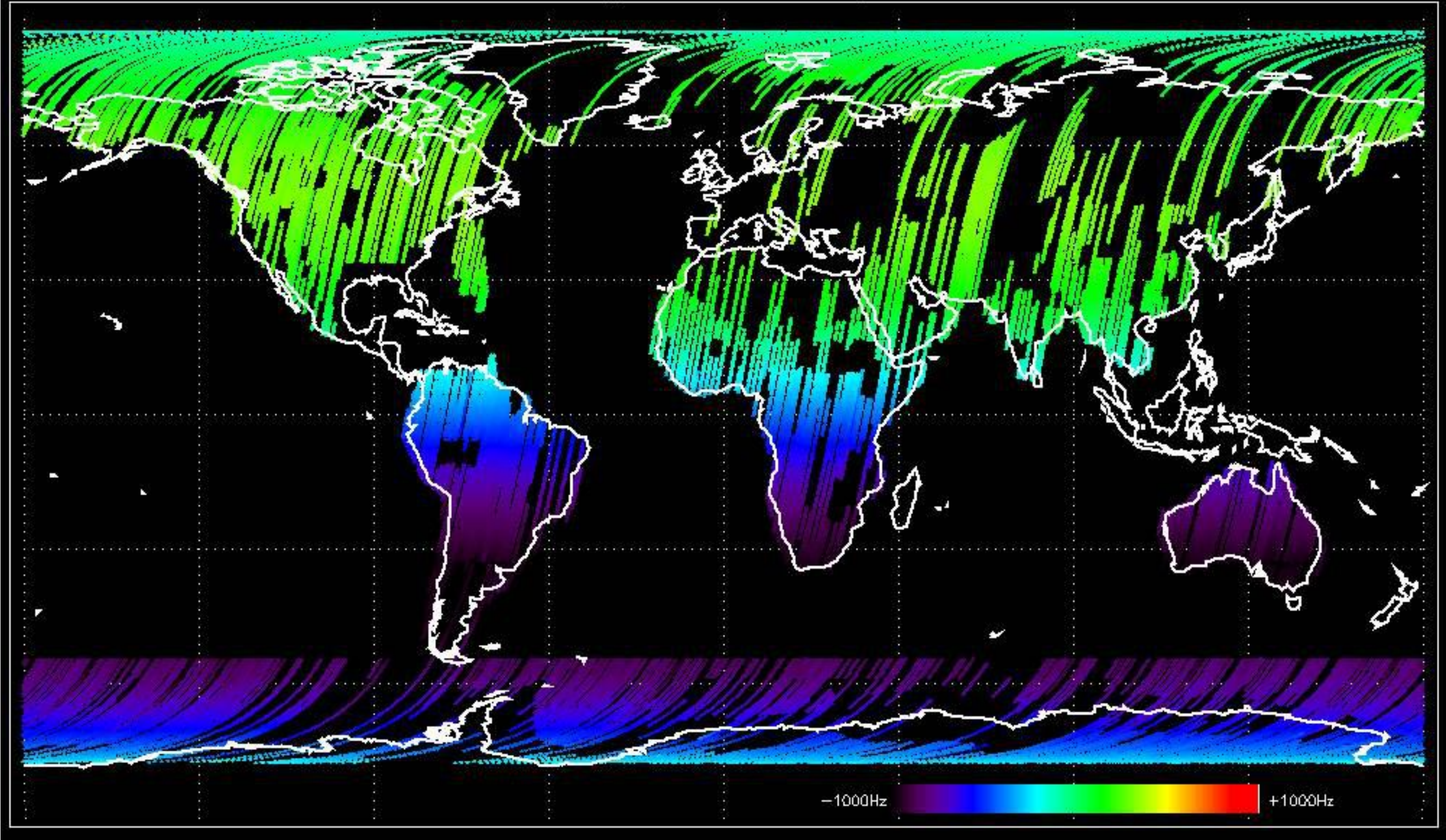


Doppler 'GM1' 'SS1' ascending



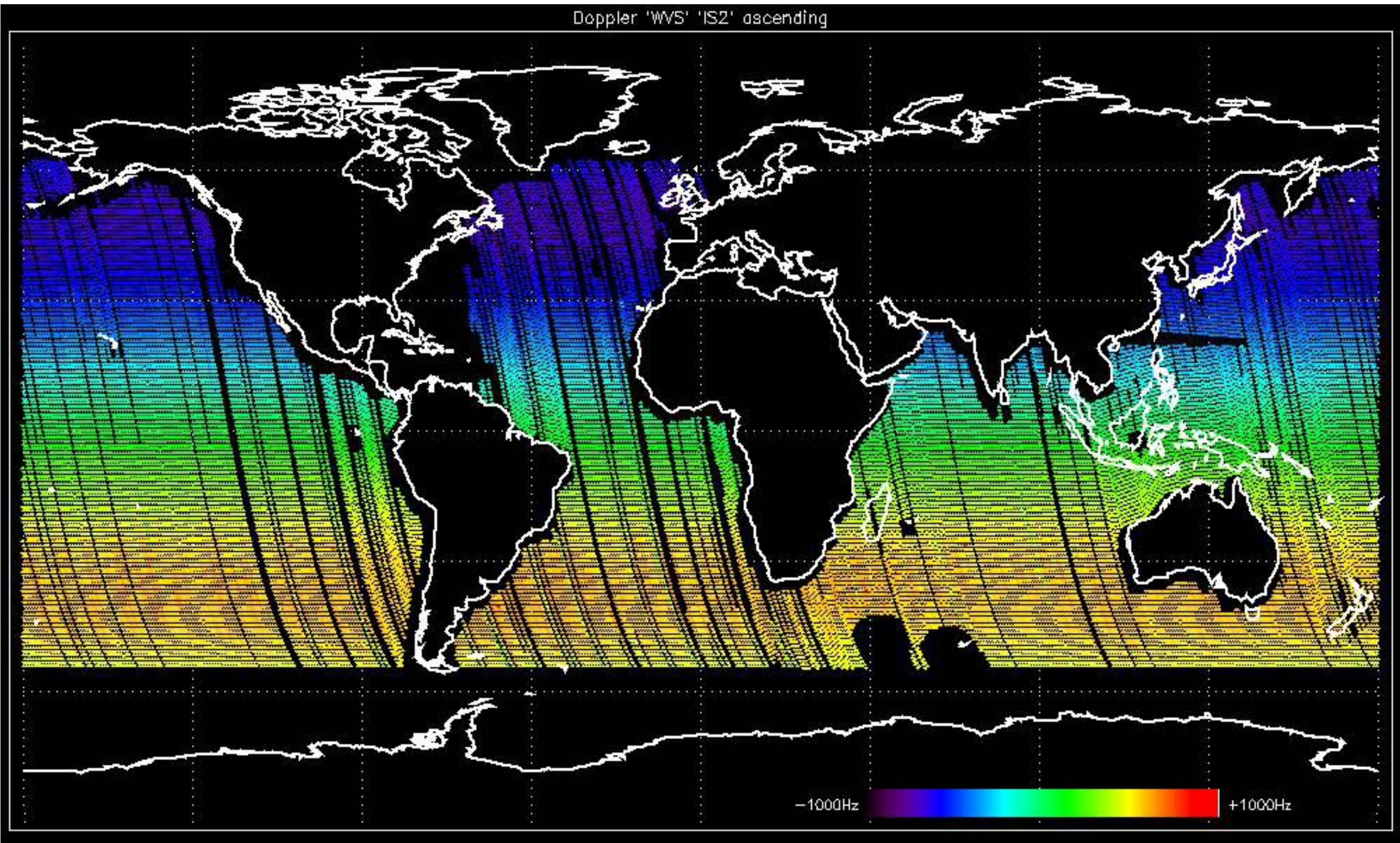


Doppler 'GM1' 'SS1' descending



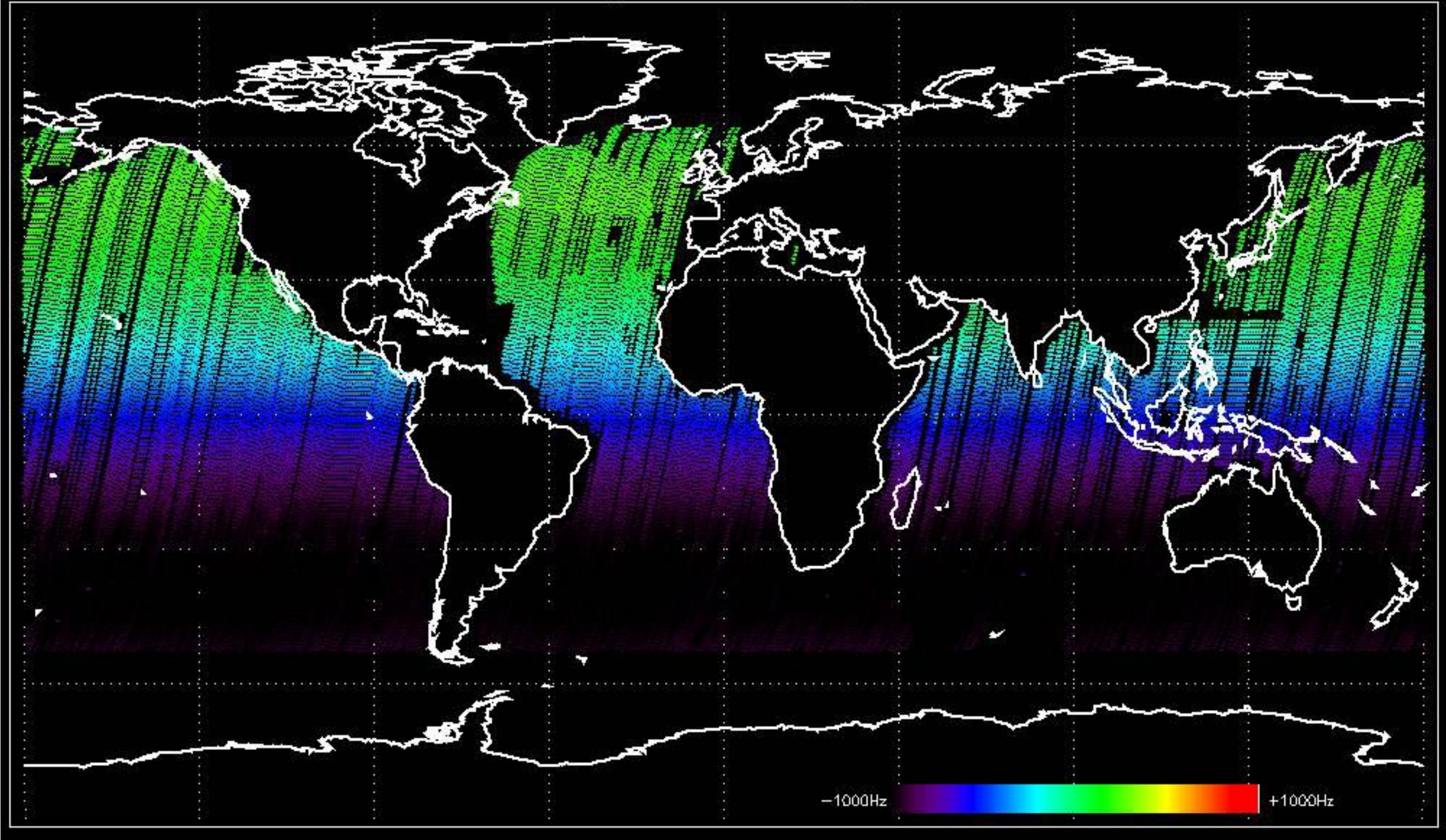


Doppler 'WVS' 'IS2' ascending

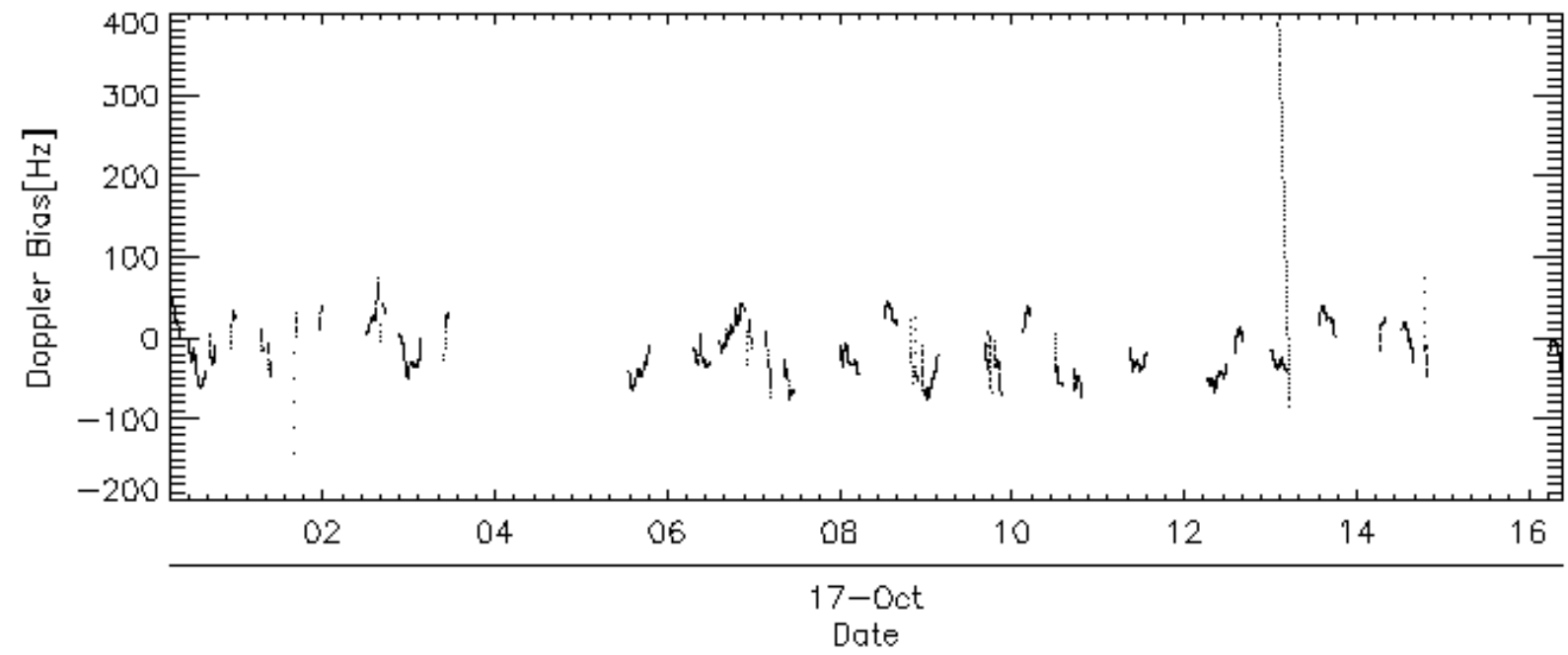
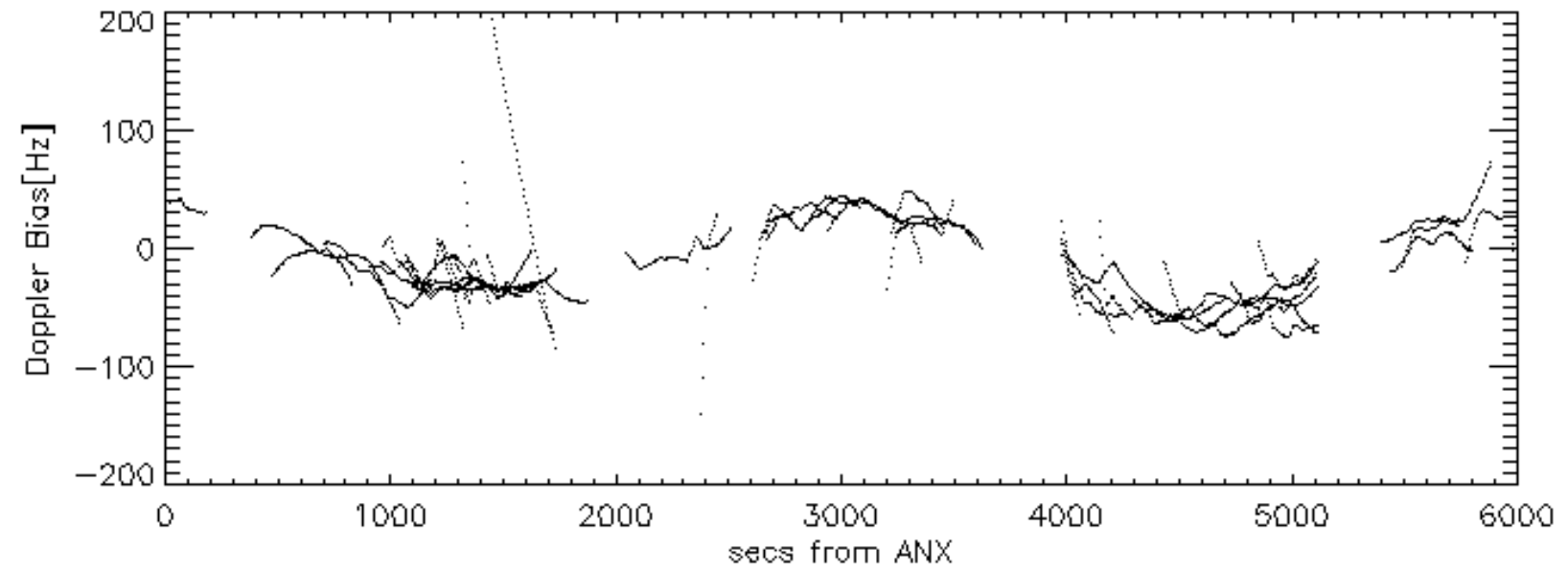
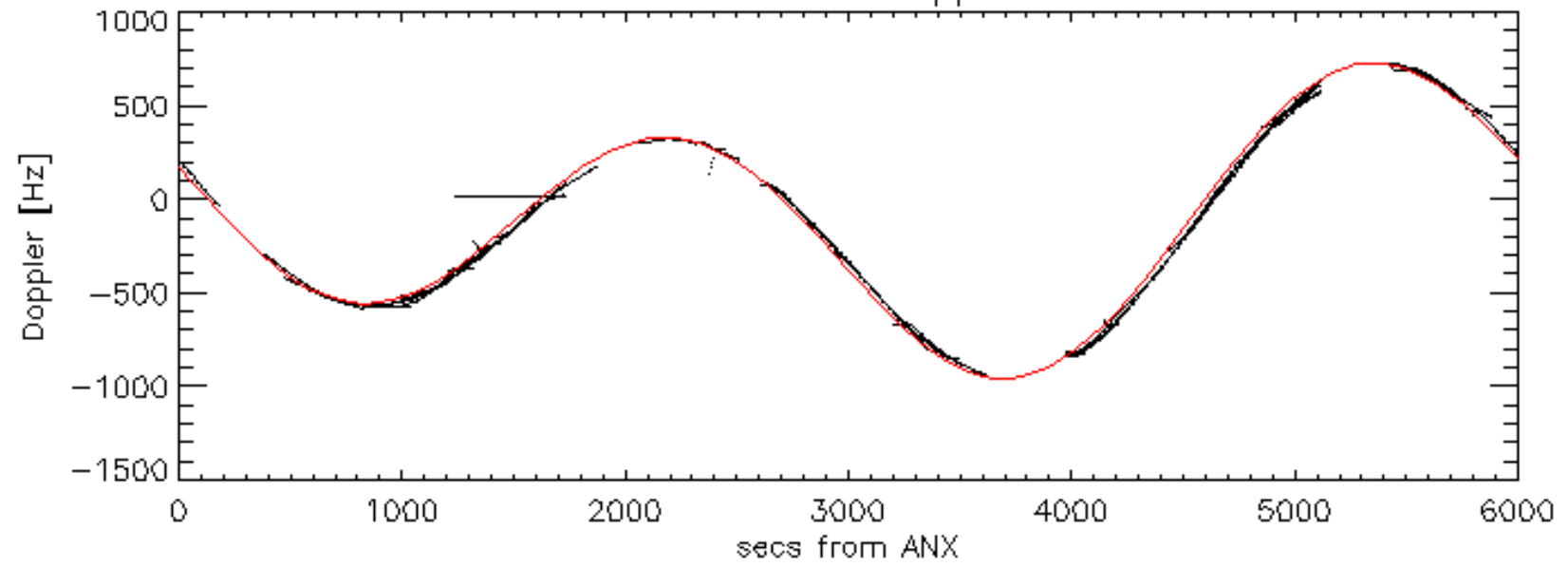


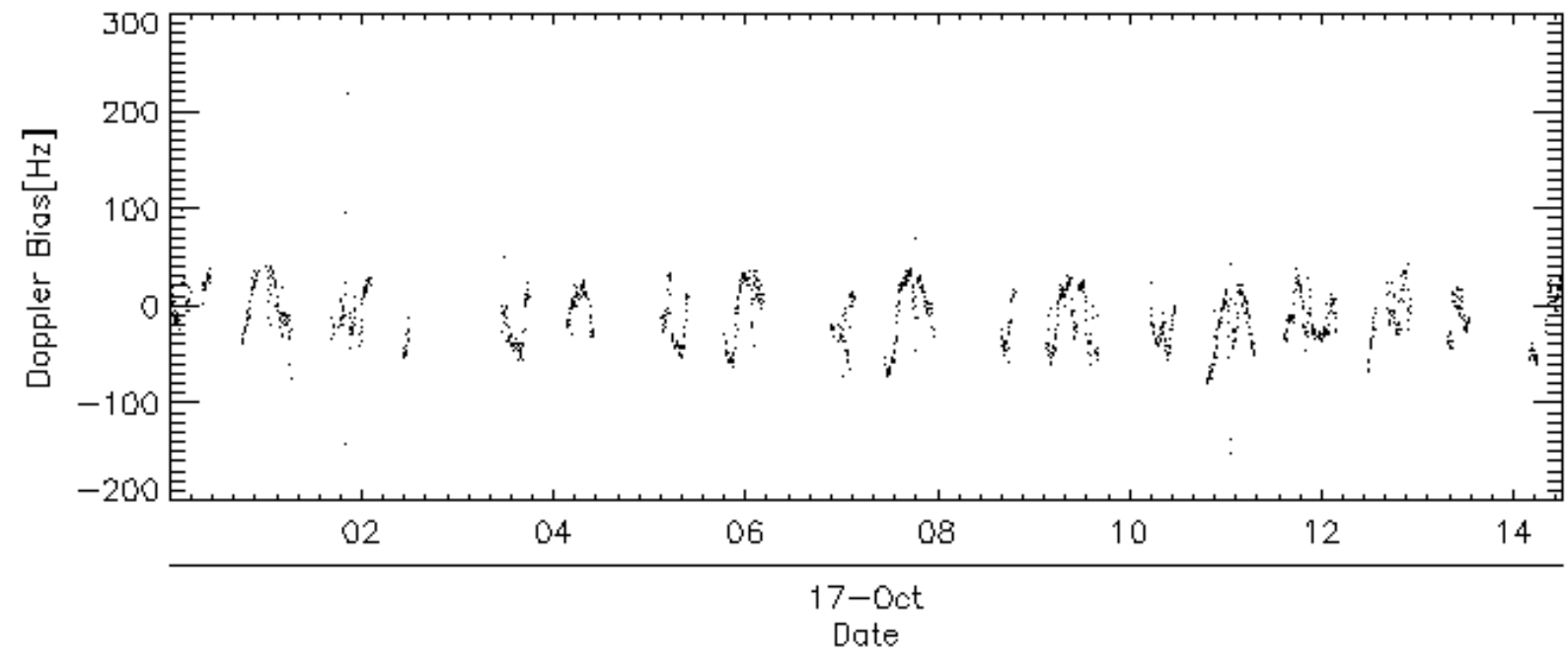
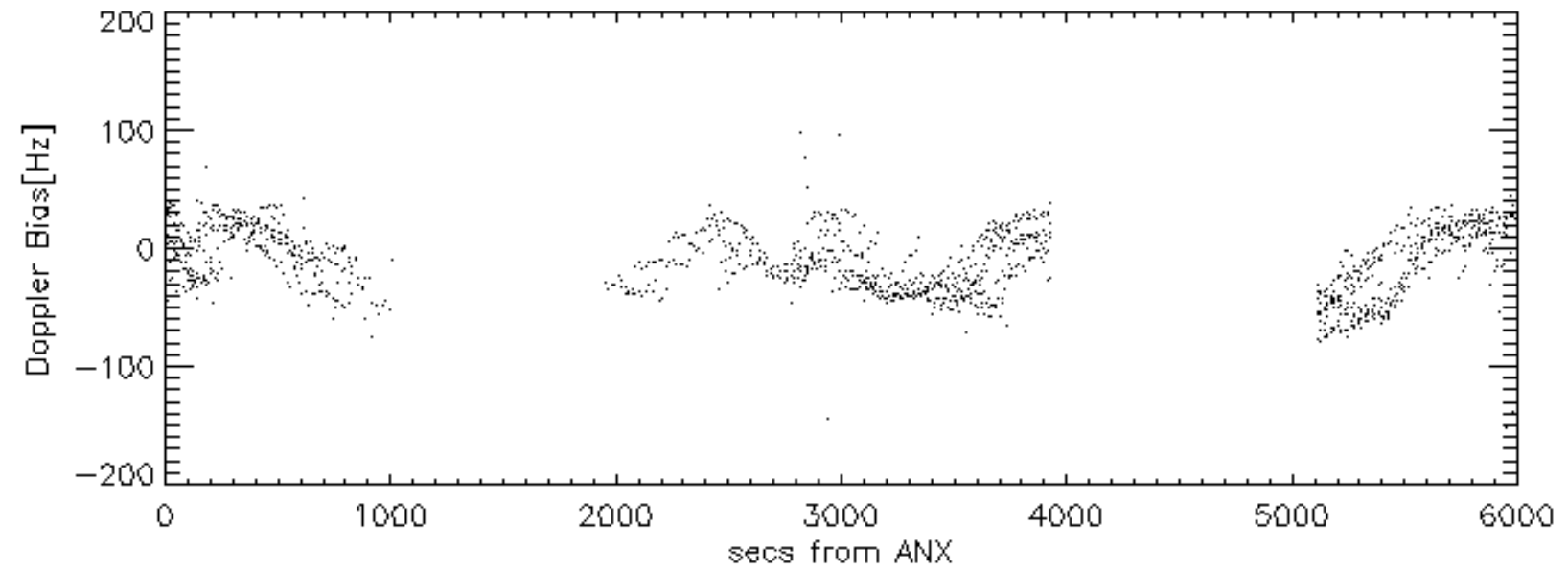
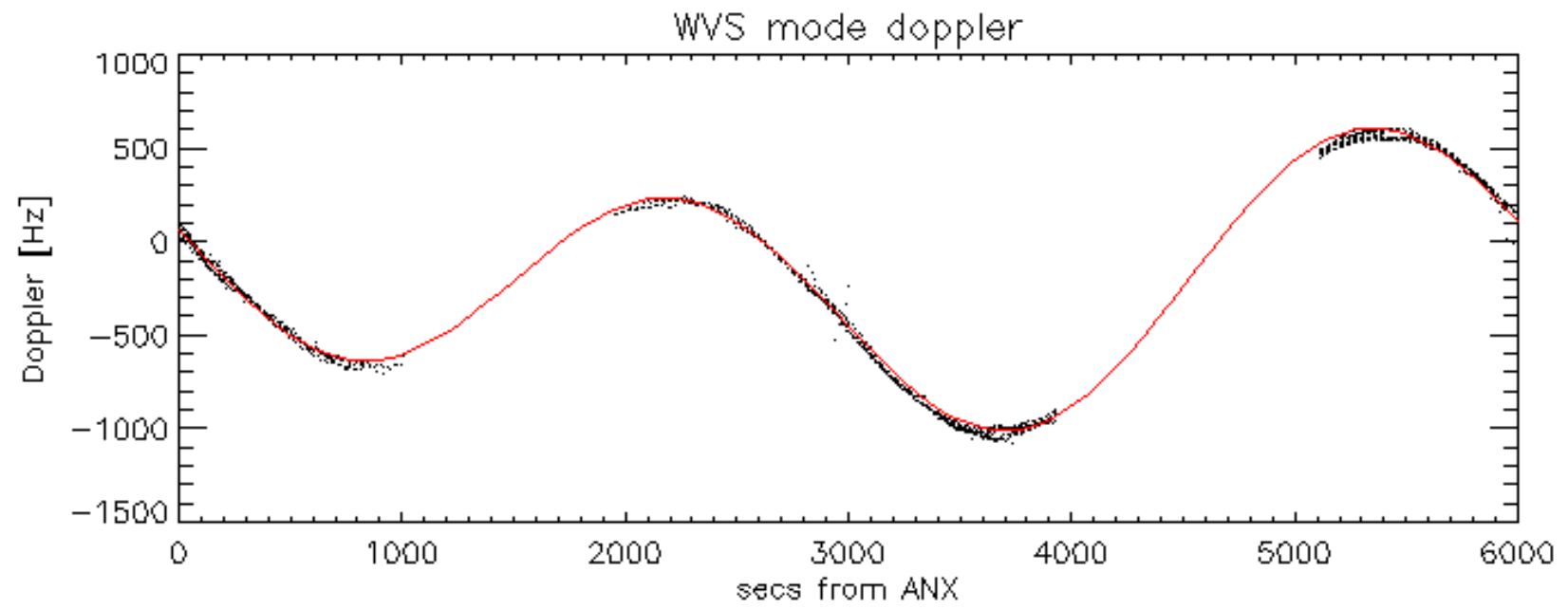


Doppler 'WVS' 'IS2' descending



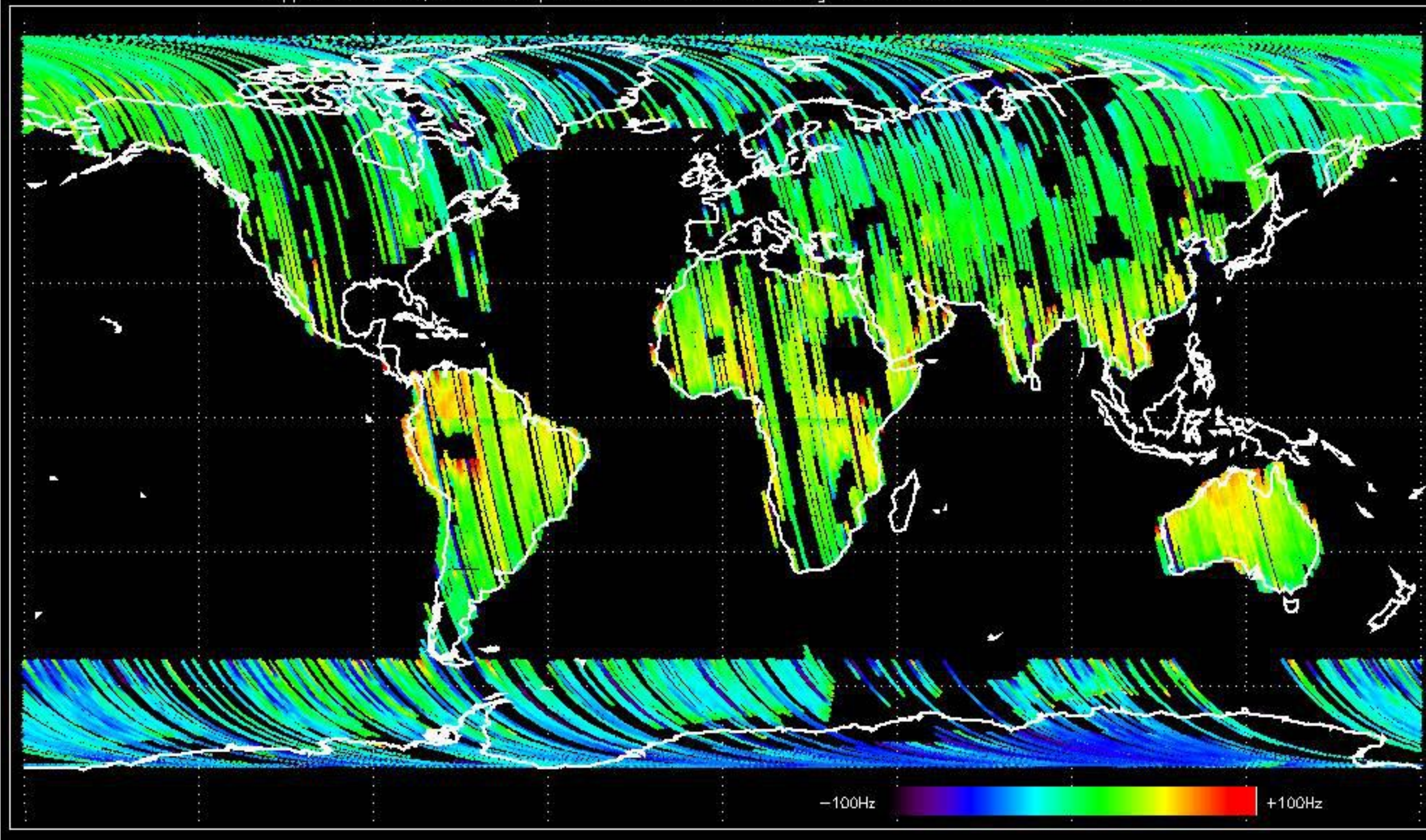
GM1 mode doppler





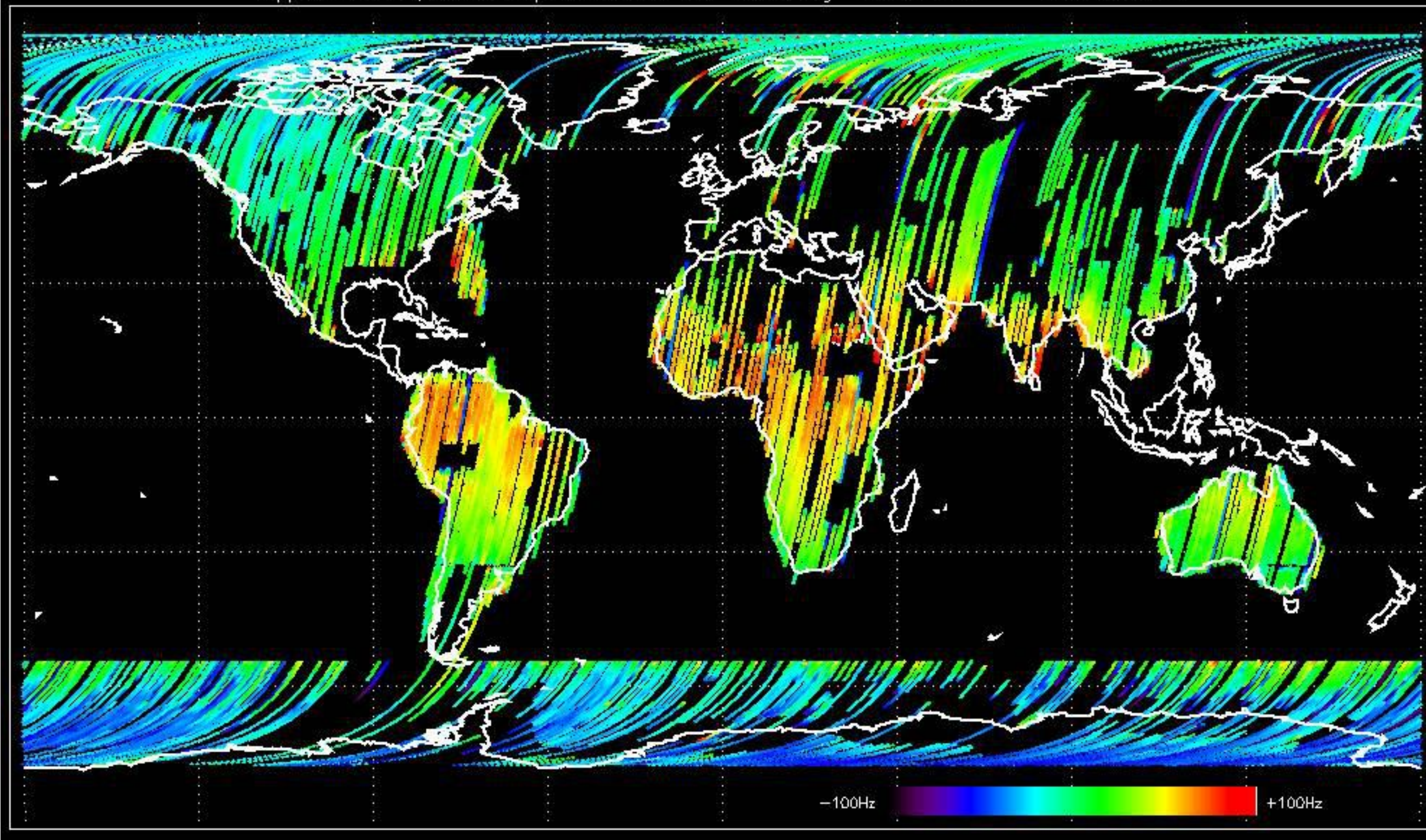


Doppler difference, estimated-predicted 'GM1' 'SS1' ascending -error mean of -19.998197 Hz



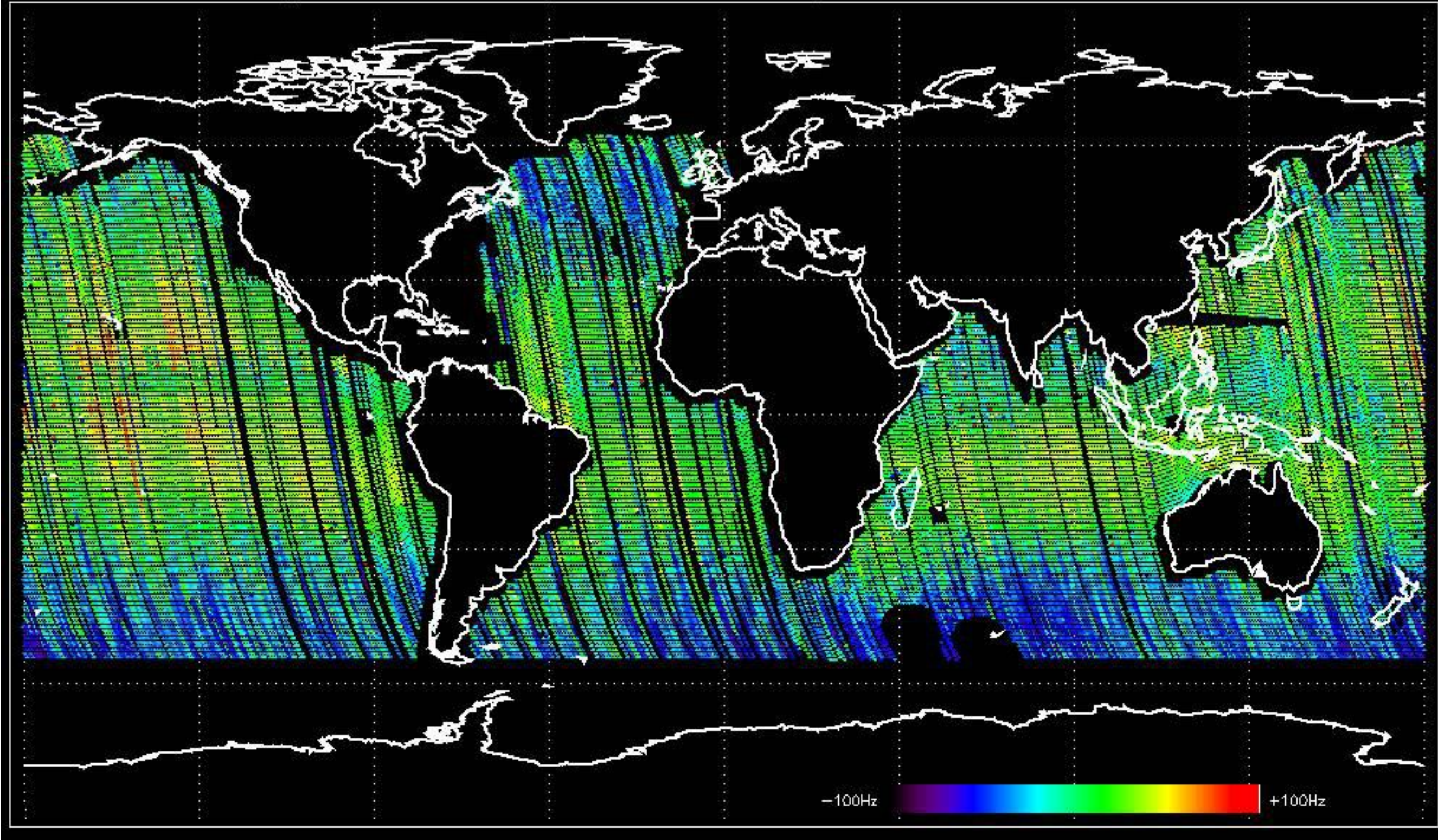


Doppler difference, estimated-predicted 'GM1' 'SS1' descending -error mean of -14.891364 Hz



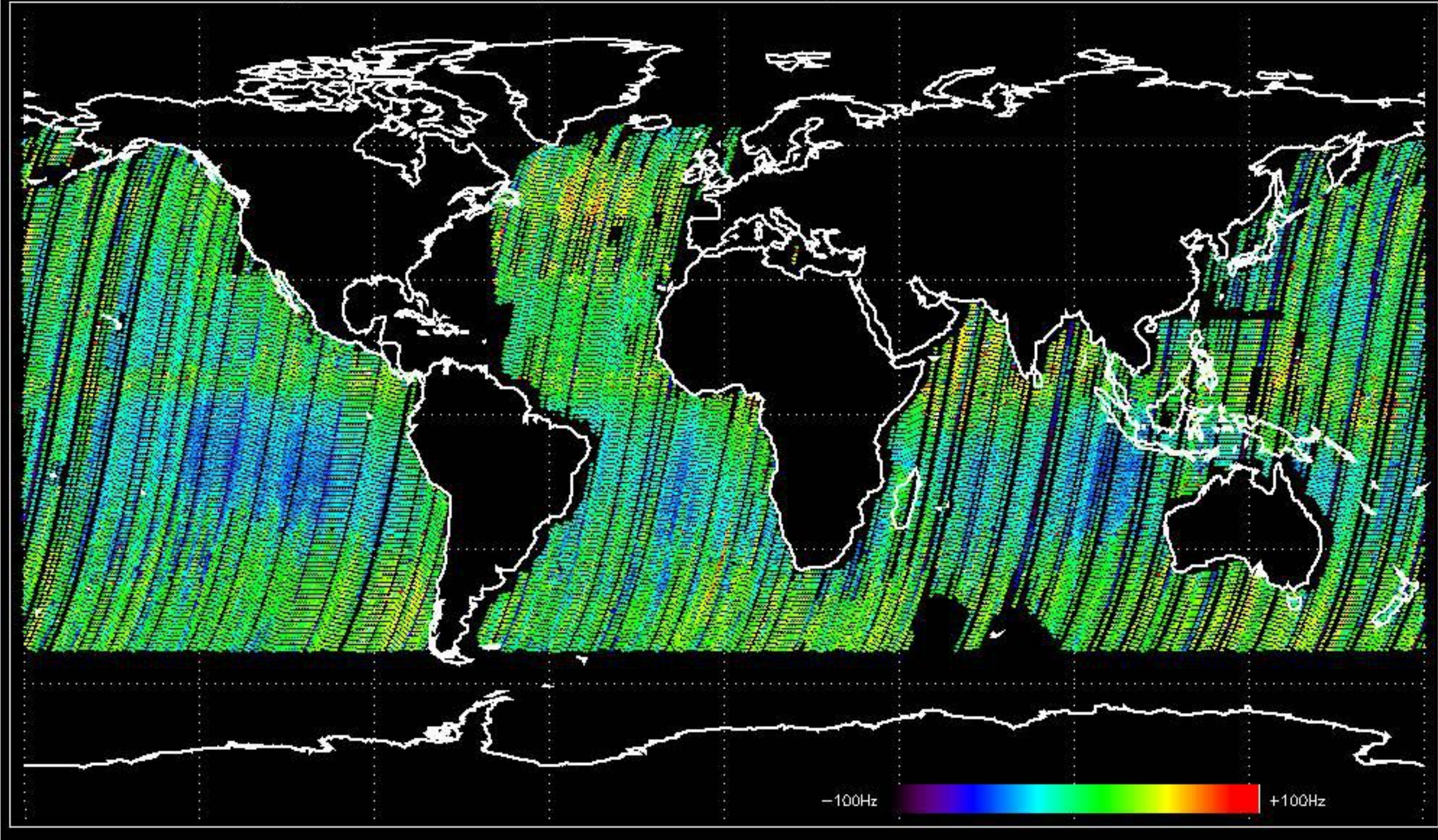


Doppler difference, estimated-predicted 'WVS' 'IS2' ascending -error mean of -8.5488323 Hz





Doppler difference, estimated-predicted 'WVS' 'IS2' descending -error mean of -15.069285 Hz





No anomalies observed on available MS products:



No anomalies observed.









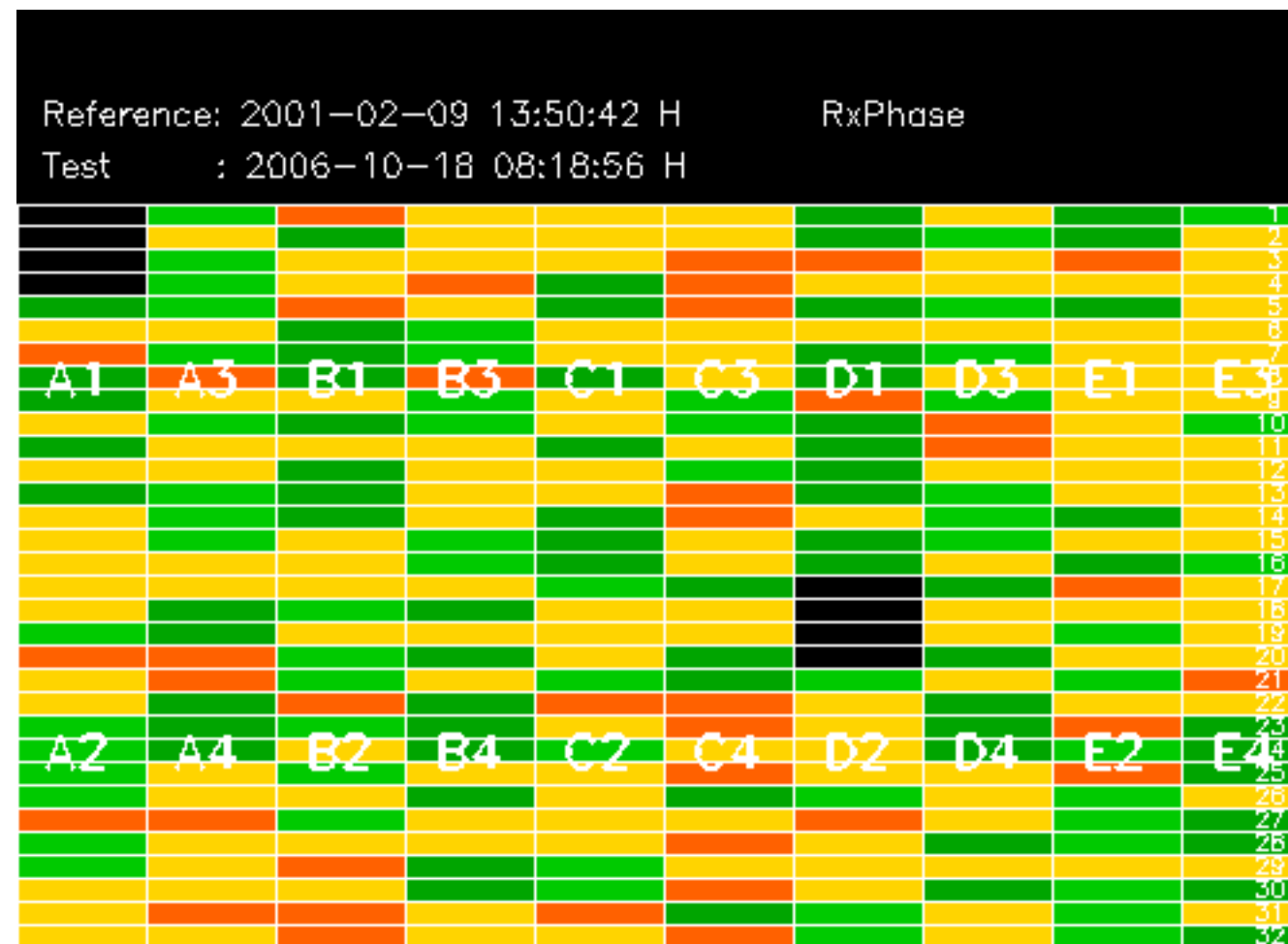




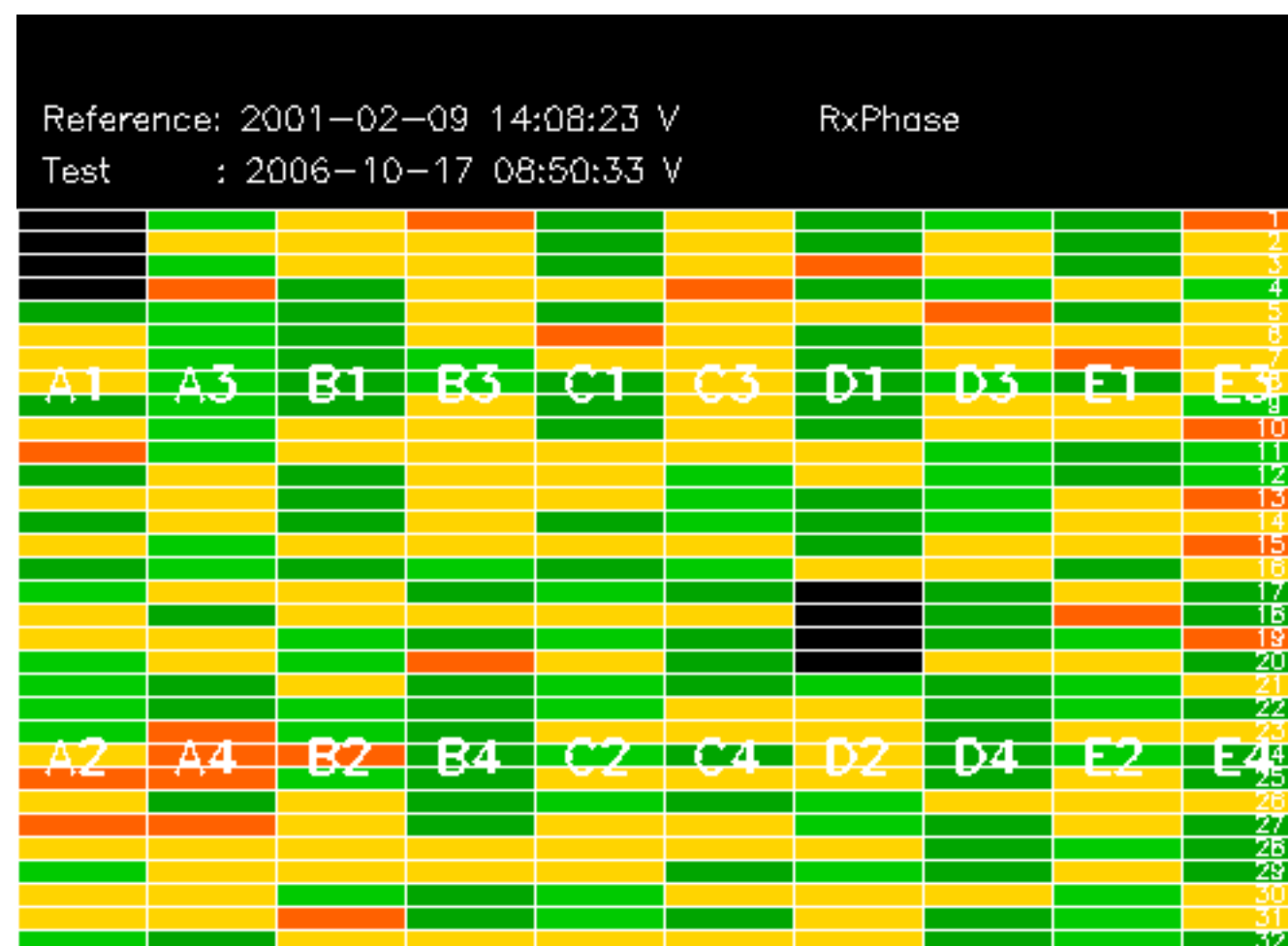




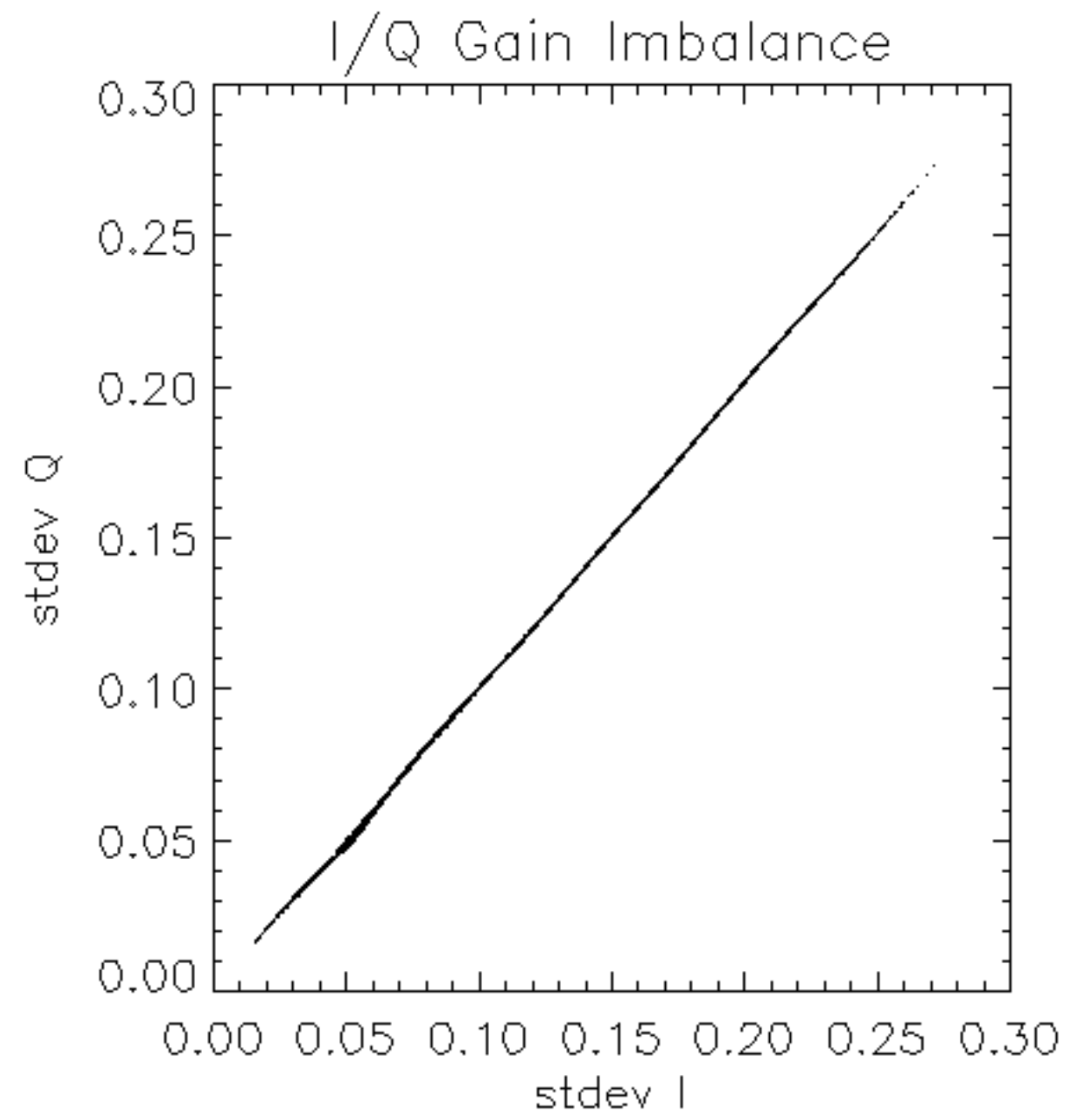


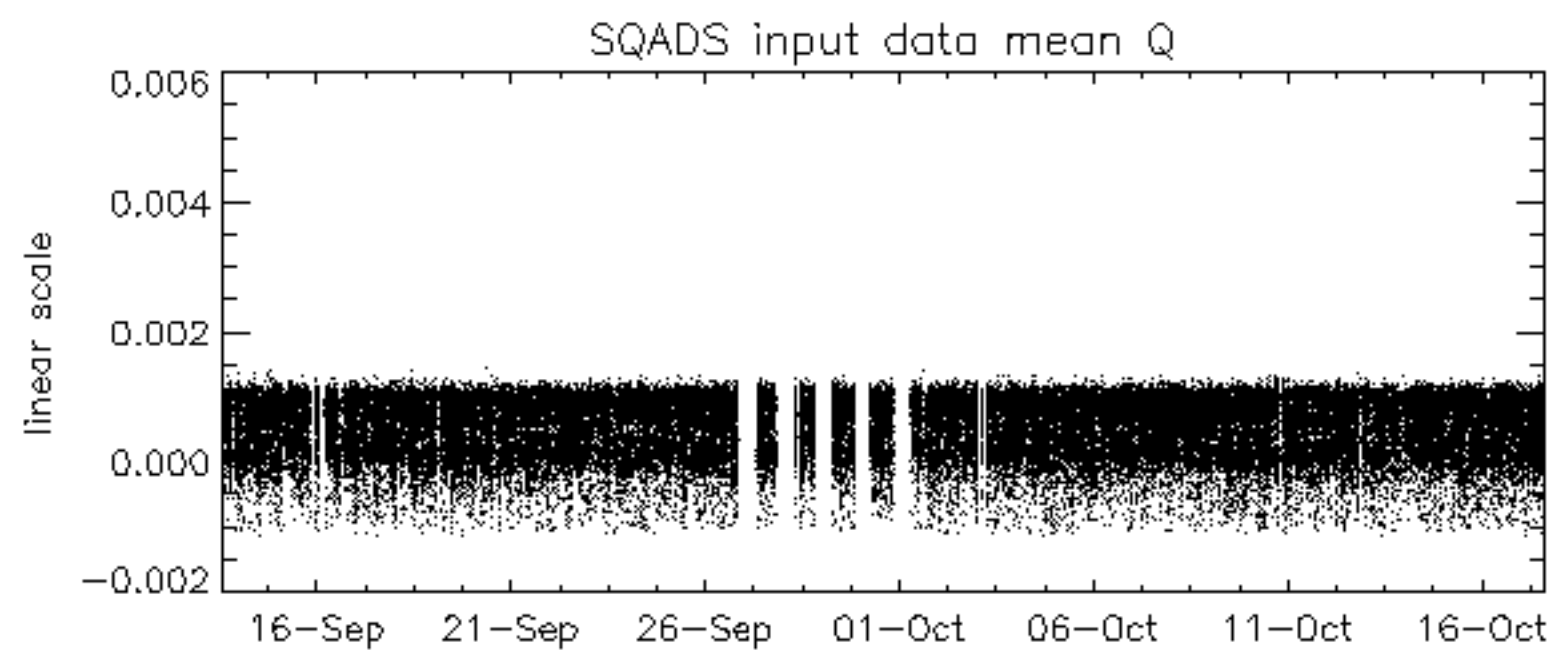
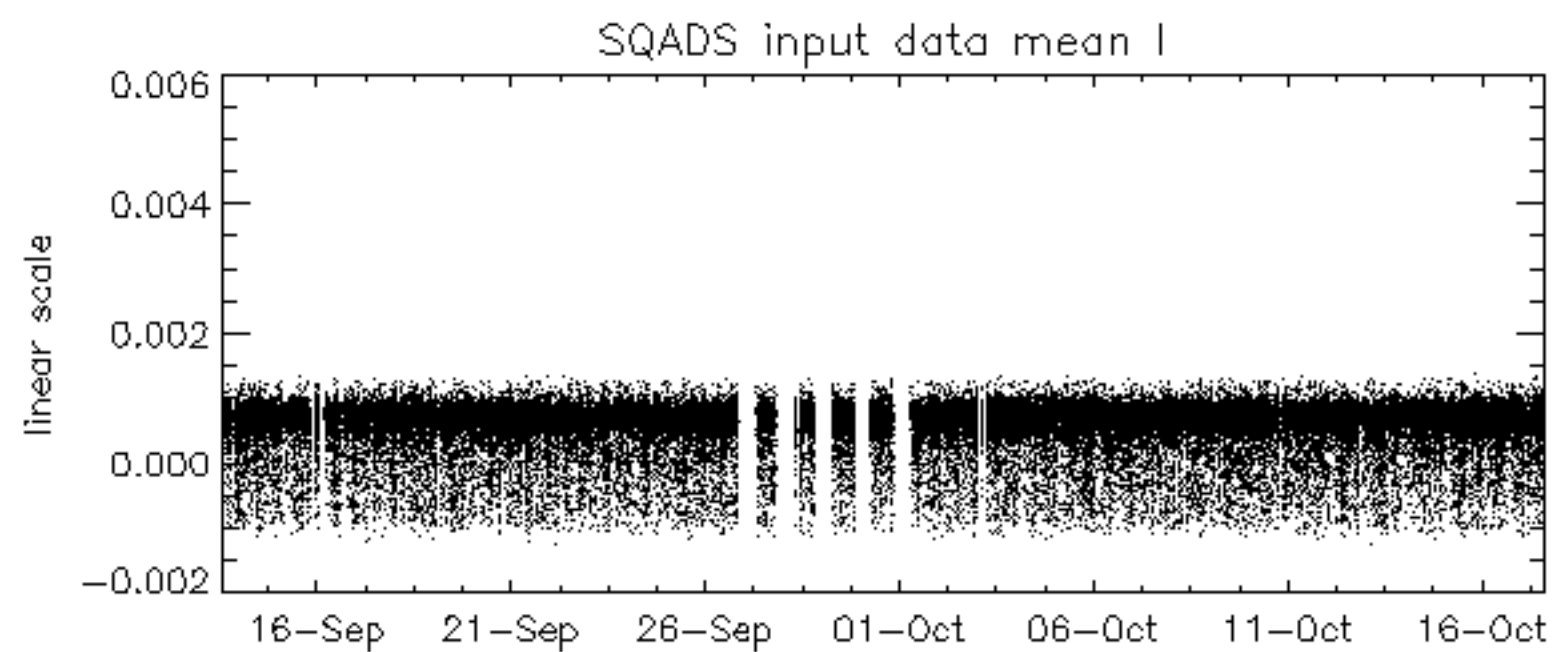
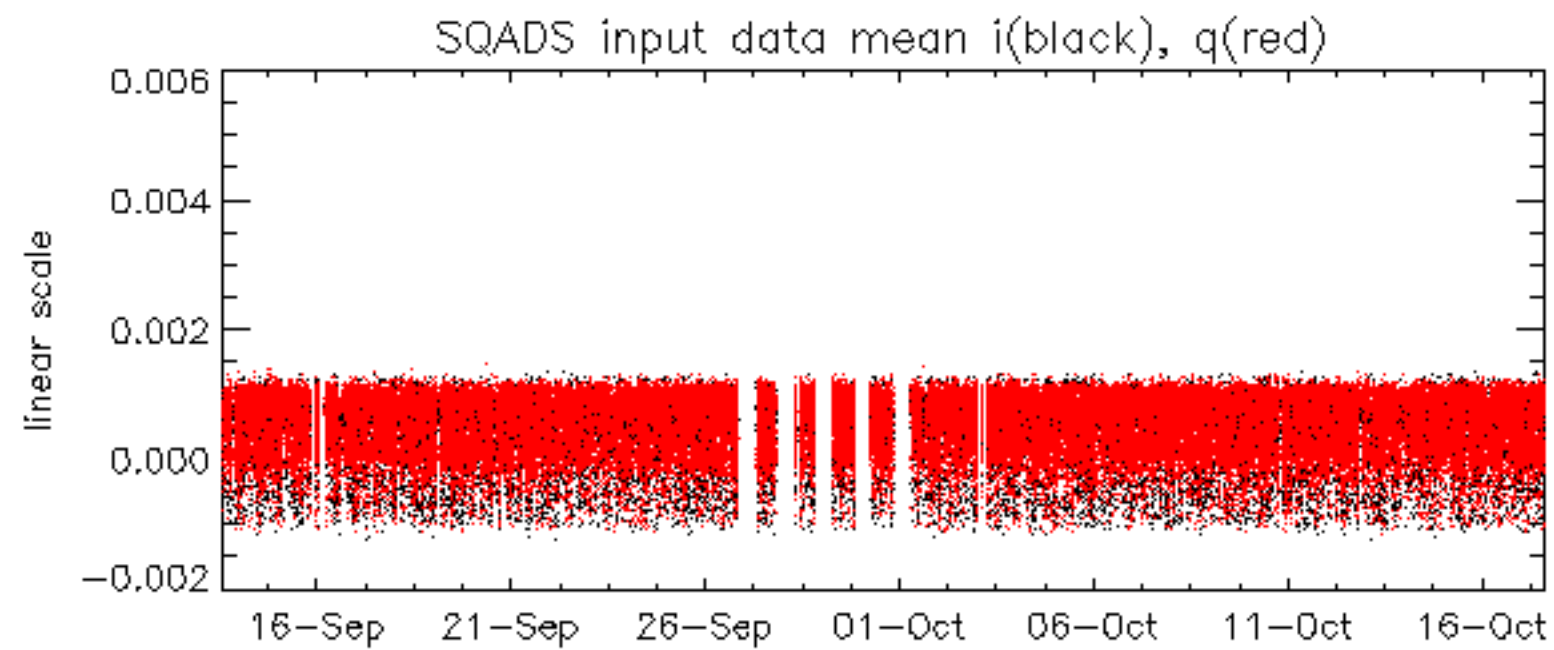


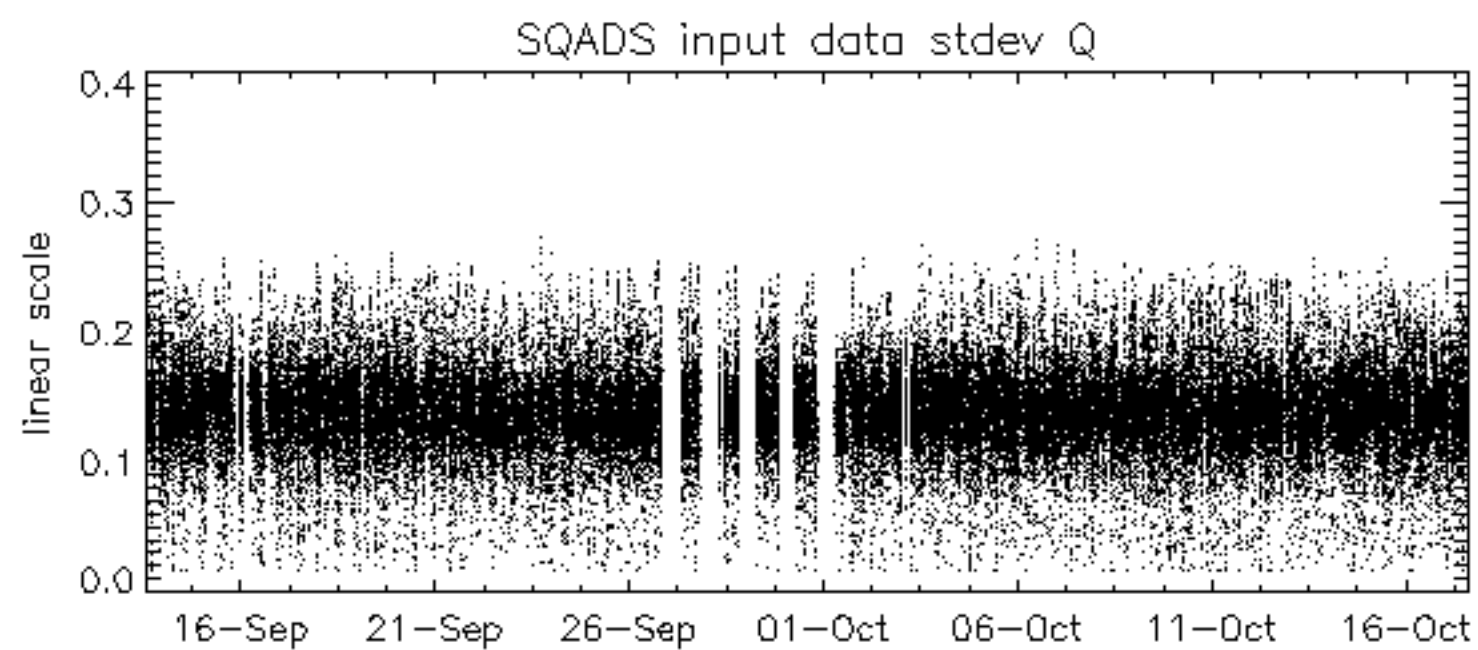
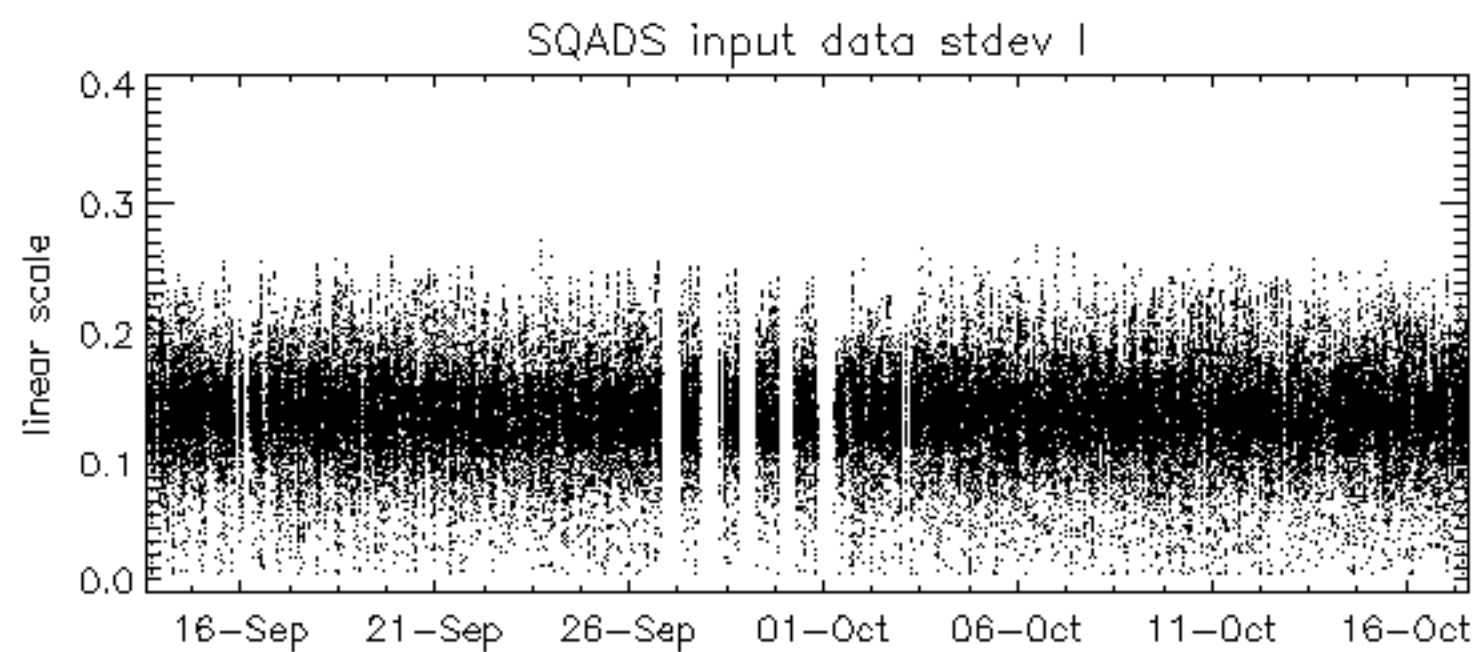
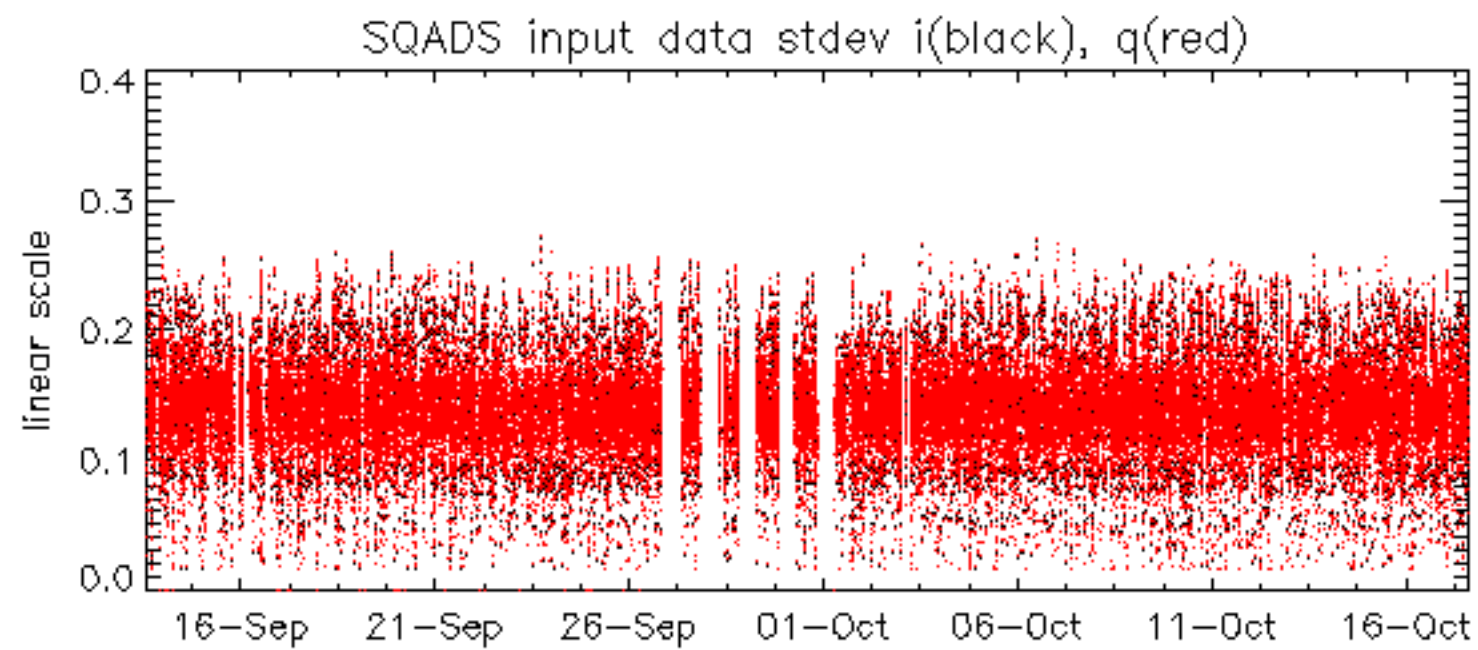
















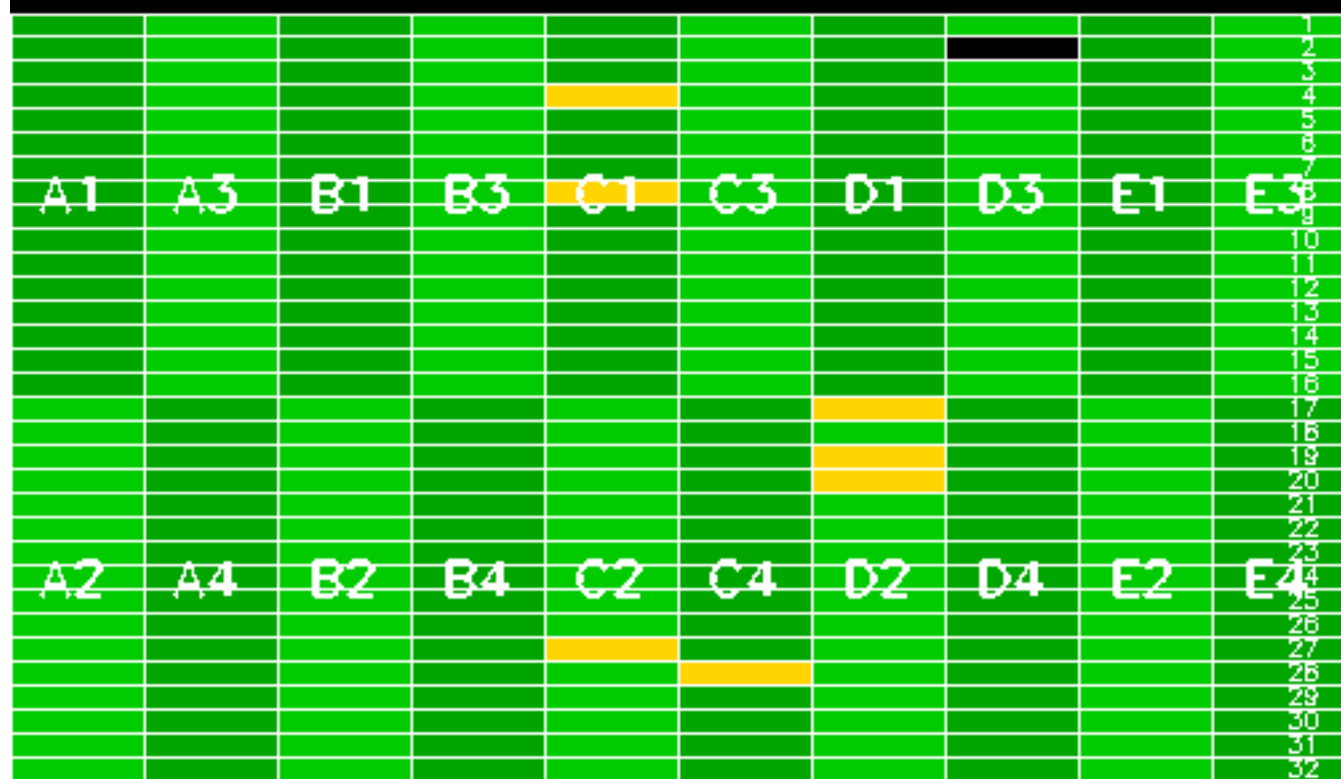








Reference: 2005-09-29 07:47:20 V TxGain  
 Test : 2006-10-17 08:50:33 V



Summary of analysis for the last 3 days 2006101[678]

The assumption is taken that the SQADS num\_gaps and num\_missing\_lines fields are reliable indicators of telemetry problems

Filename	num_gaps	num_missing_lines
ASA_IMM_1PNPDE20061016_002901_000000512052_00088_24190_7082.N1	1	0
ASA_GM1_1PNPDK20061016_101226_000002832052_00094_24196_6655.N1	0	15
ASA_GM1_1PNPDK20061016_101852_000003802052_00094_24196_6652.N1	0	6





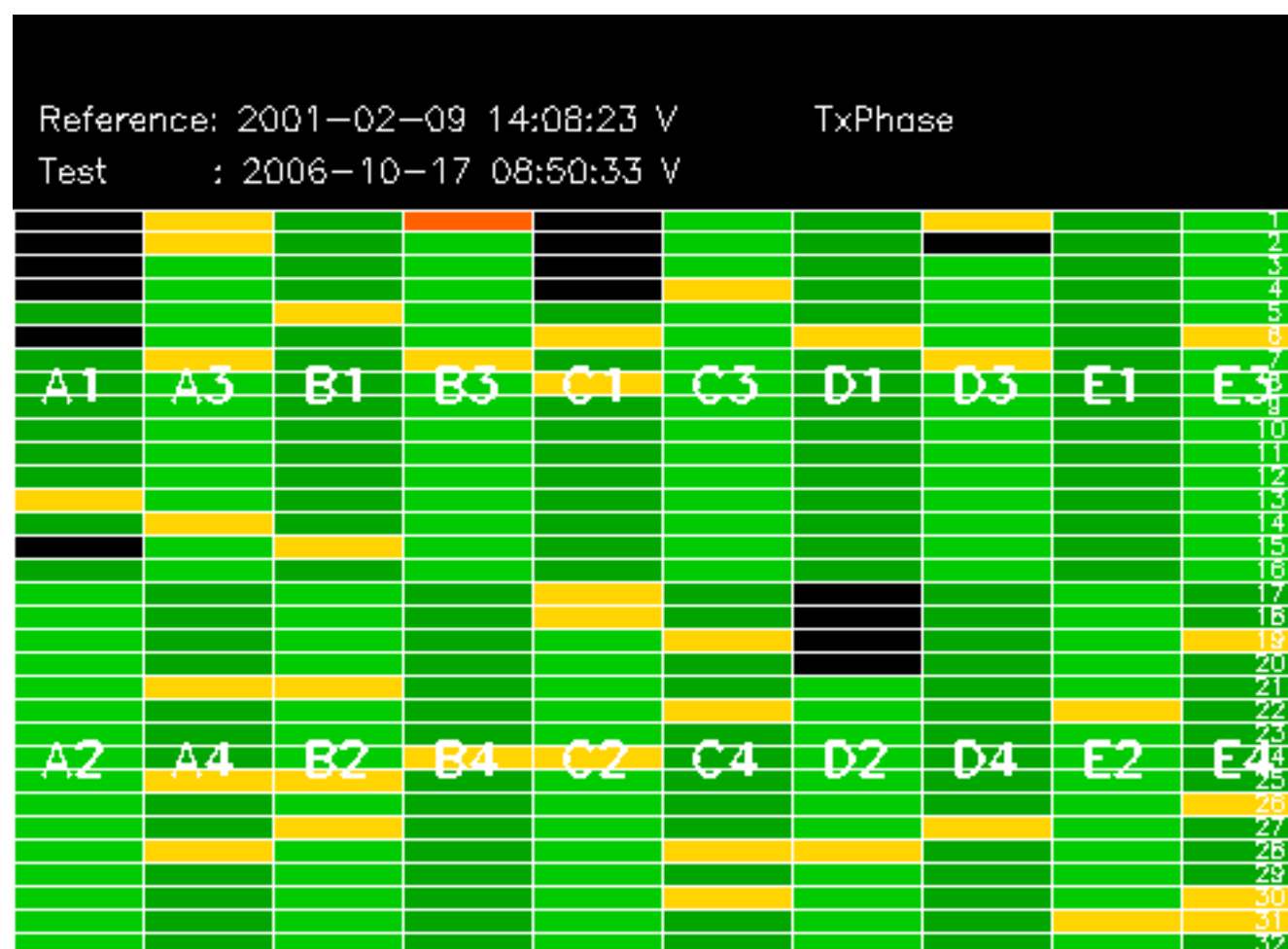








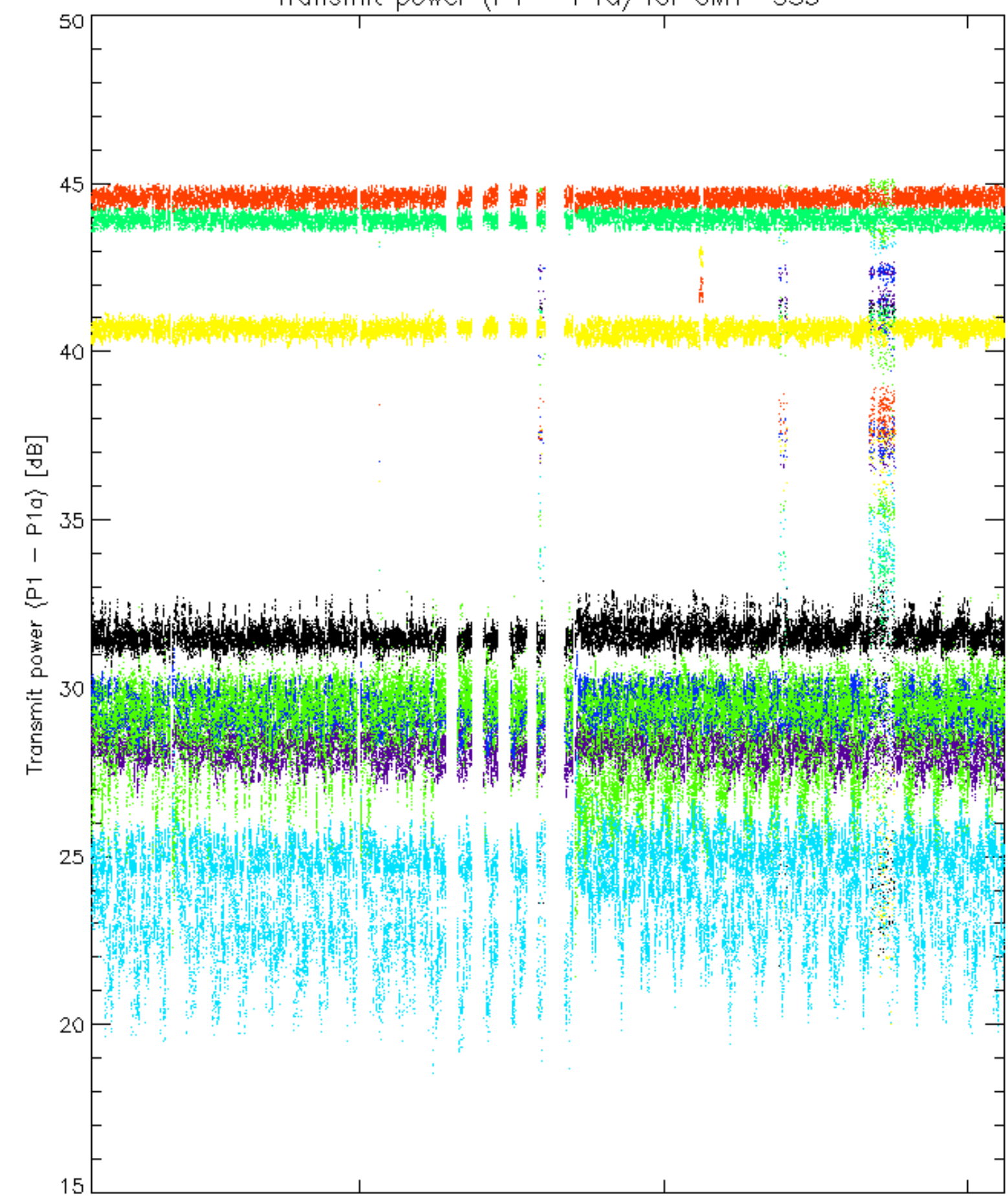




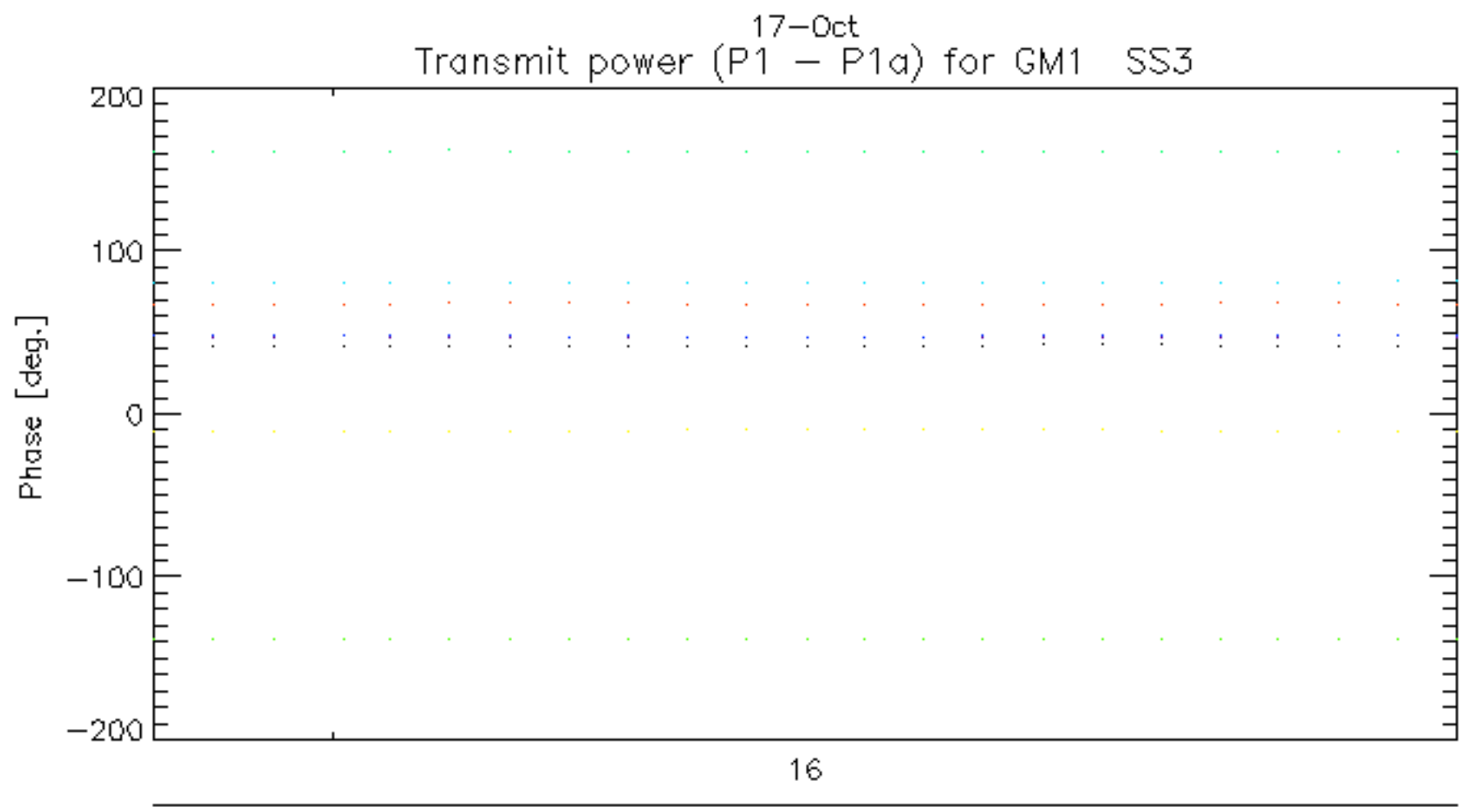
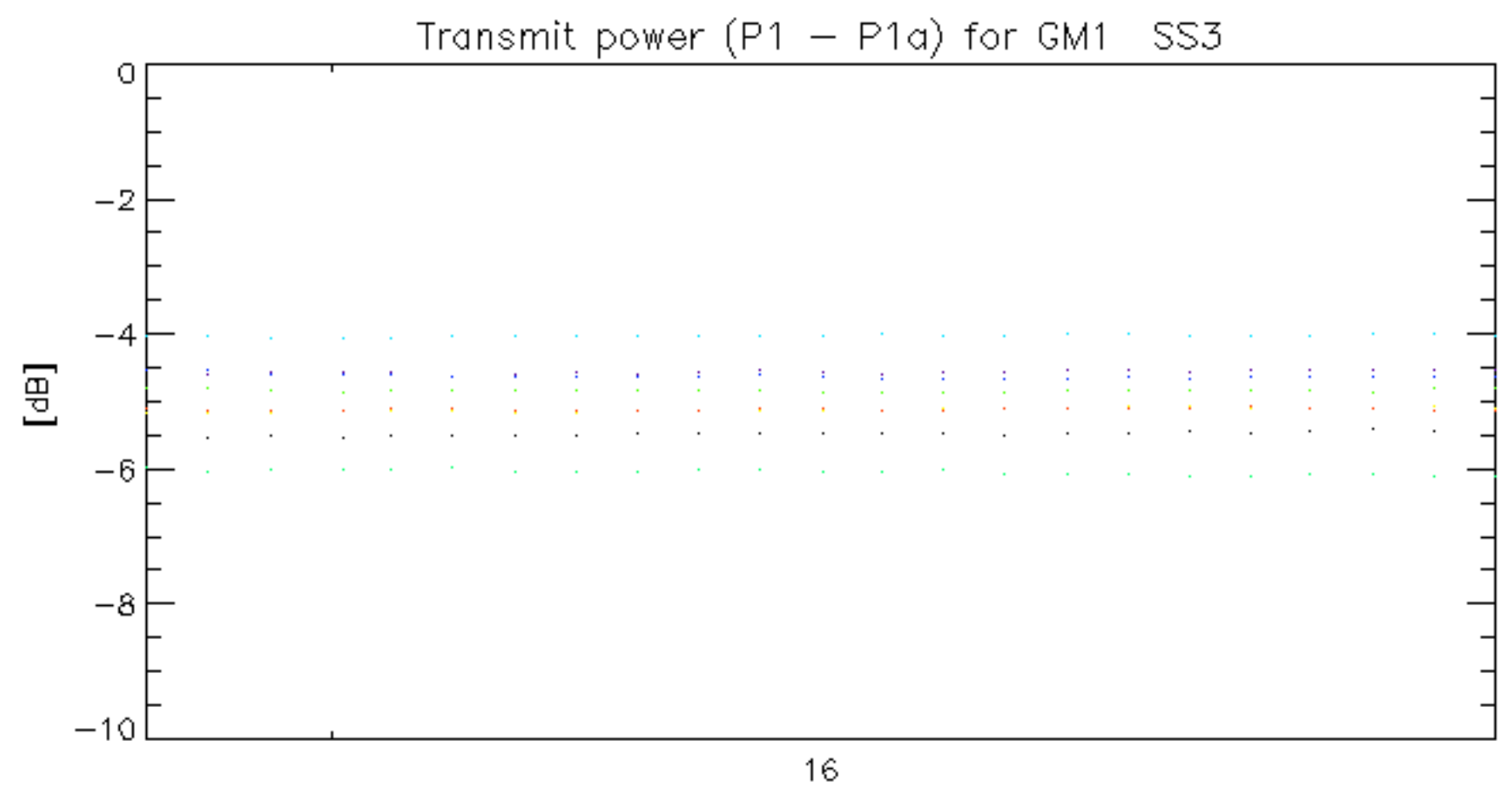




Transmit power (P1 - P1a) for GM1 SS3

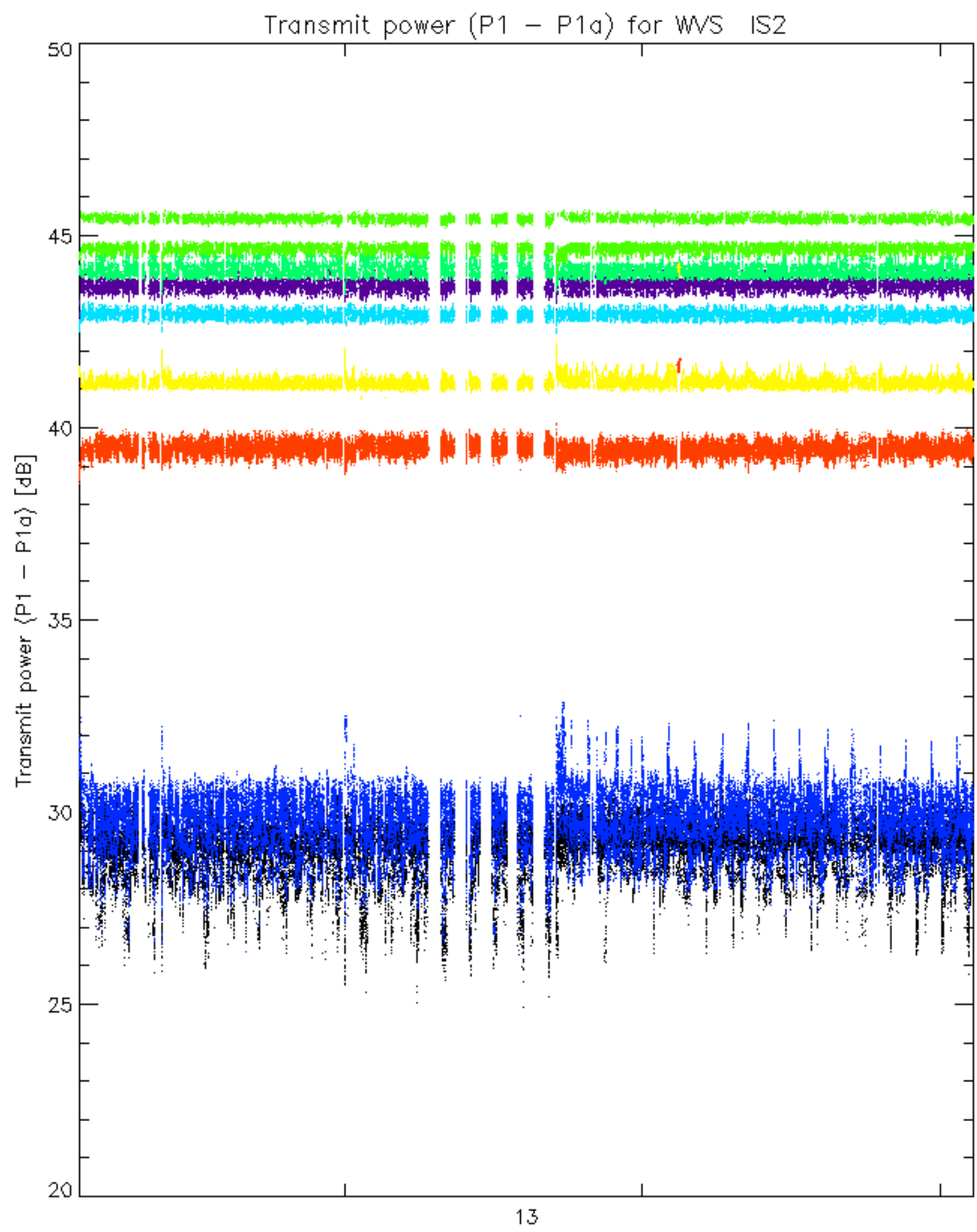


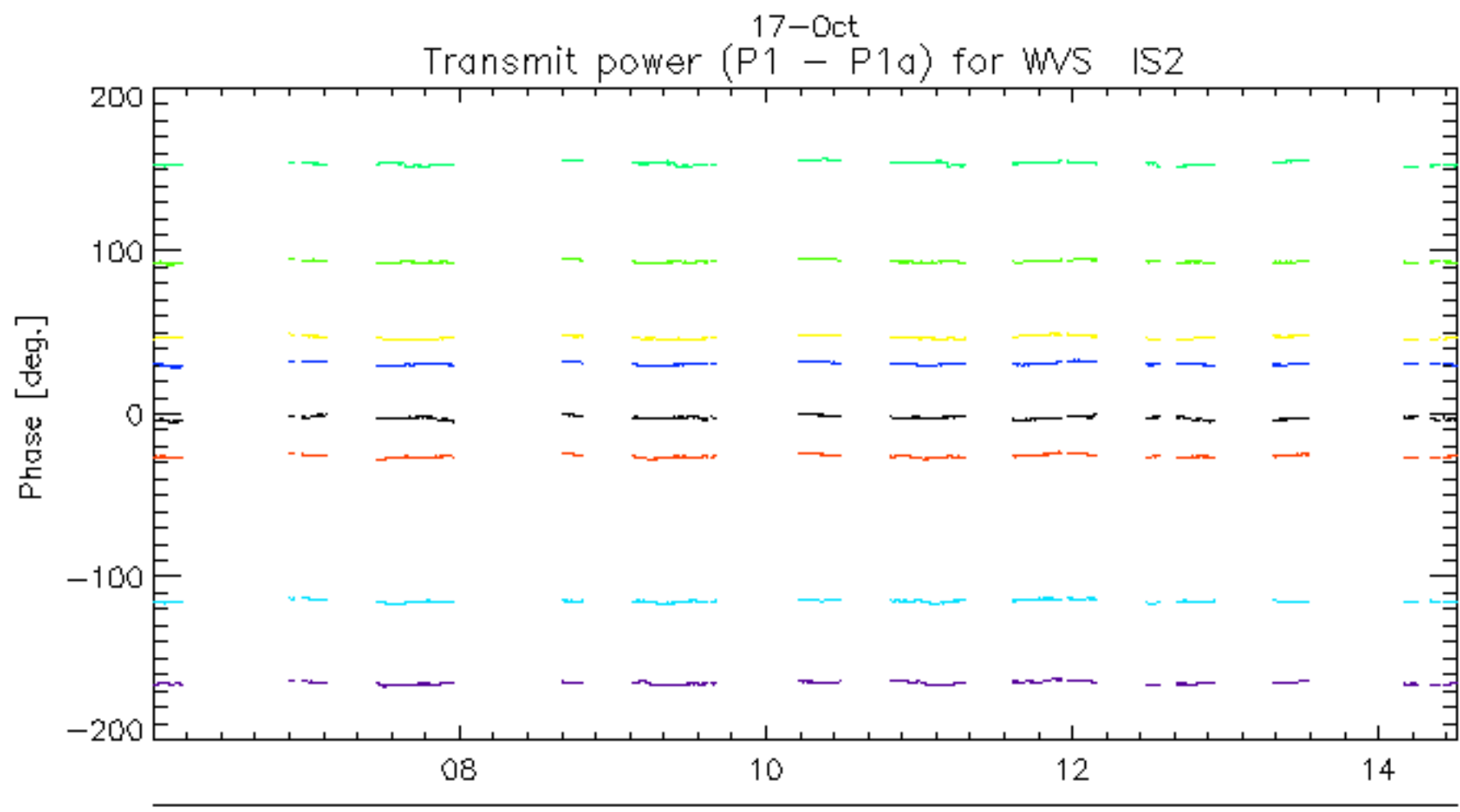
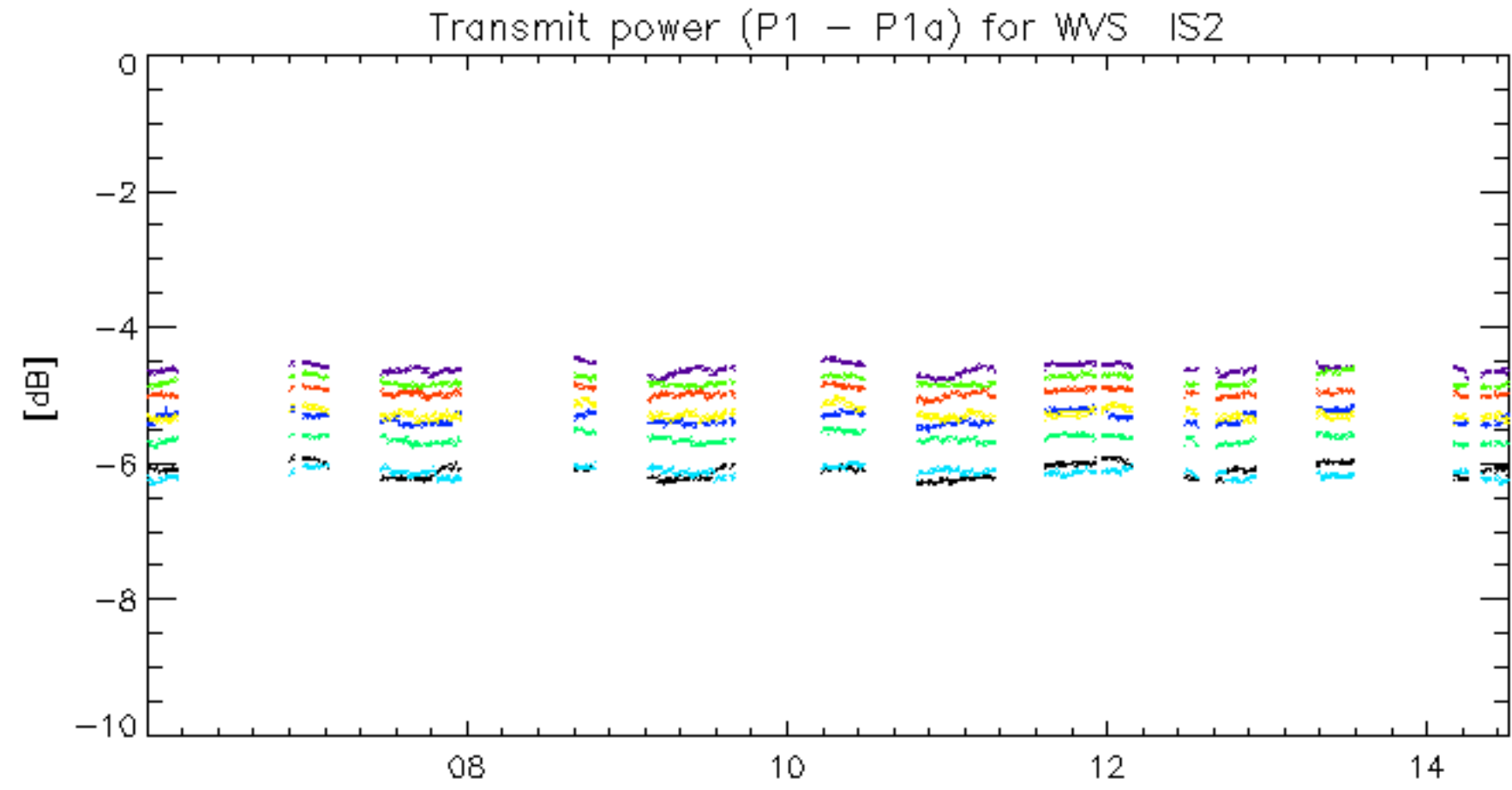
rows: 3 7 11 15 19 22 26 30



17-Oct  
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30







17-Oct  
rows: \_ 3 \_ 7 \_ 11 \_ 15 \_ 19 \_ 22 \_ 26 \_ 30

No unavailabilities during the reported period.